

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—PSYCHOLOGICAL PRINCIPLES.

I. THE STANDPOINT OF PSYCHOLOGY.

It is nowadays generally, though by no means universally, conceded that Psychology is a science and not a branch of philosophy. Nevertheless it must be allowed that the two subjects are closely connected; indeed it is matter of fact, that to philosophy the Science of Mind is indebted for its very existence. For what has been so often remarked of the other sciences holds good also here, *viz.*, that practical needs were the beginning of theoretical inquiries. Only at first sight can it seem strange to associate philosophy with practical wants: a glance at its history will suffice to show that whatever may have been its success or failure, its inciting motive has always been not curiosity, or the mere desire of knowledge, but, as even its name implies, the need of wisdom.¹ In seeking to find their bearings in the world and know what is truth and what is good, men were led to investigate what seemed nearest to them, their own minds; and how largely psychological inquiries have furnished the turning-points of philosophy is evident from such opposed terms as Idealism and Materialism; Sensationalism and

¹ There is perhaps no definition of philosophy which better expresses its practical intent than that which Kant gives as its *Weltbegriff*:—Philosophy is the science which connects all knowledge with the essential aim of human reason (*teleologia rationis humanæ*).—*K. d. r. V.*, "Methodenlehre," § 2.

Rationalism; Determinism and Libertarianism. Until comparatively lately, the interest in psychical facts rarely extended further than seemed required by such problems as those concerning the nature of things, the criteria of knowledge, and the grounds of moral responsibility. But the world has now come to see that philosophers, as such, make bad psychologists; and also, for the matter of that, mere psychologists bad philosophers: the one lacks the scientific eye for facts generally, the other the speculator's feeling for improving ideas. These considerations of method are, however, in any case, enough to warrant the treatment of psychological questions apart from all side-references to the weightier matters of philosophy. Such a separation has been amply justified by the results as regards the physical sciences; that is to say, these sciences have gained immensely by it; nor can the advance of philosophy be permanently retarded by the extension and systematisation of special departments of empirical knowledge. In fact there is much to be said—though this is not the place to say it—in favour of the opinion that the chief business of philosophy is with the assumptions involved in the methods and data of the several sciences.¹ But if so, though philosophy and science both give and take, yet philosophy must take before she can give. At any rate, save for those who regard philosophy as independent of experience and the human mind as competent to evolve the world *ab initio* by a process of pure thought, it is an obvious advantage to start with knowledge, or what purports to be knowledge, already in some measure formulated and systematised. For this first elaboration of its material, philosophy may be trusted to make a due return: there is no reason to fear that the benefits of division of labour will be less here than elsewhere. In the case of Psychology, then, it is contended, that it is not called upon to ascertain the validity of knowledge or to provide a theory of the external world, or to discuss the existence of a substantial Ego or the nature of the connexion between Matter and Mind: these questions, if they are to be dealt with at all, must be relegated to philosophy. There is a certain department of experience,—as we must be content to call it for the present—the facts of which either coexist together or succeed each other in ways that are known in a more or less disconnected fashion by everybody: to give a clear, distinct, orderly

¹ On this point there is an interesting paper, quite one of the signs of the times, by E. Zeller:—"Ueber die Aufgabe der Philosophie u. ihre Stellung zu den übrigen Wissenschaften," Zeller's *Vorträge*, 2te Sammlung, p. 445.

and complete account of these facts and relations is the problem of Psychology as a science. Any discussion of the bearing of this science upon the leading questions of philosophy will be best deferred till its proper standpoint as a science is determined.

In the several natural sciences the scope and subject-matter of each is so evident that little preliminary discussion on this score is called for. It is easy to distinguish the facts dealt with in a treatise on Light from those that belong to one on Sound; and even when the need arises to compare the results of two such sciences—as in the case, say, of Light and Electricity, there is still no difficulty; apart, of course, from any which the imperfect state of the sciences themselves may occasion. Theoretically, a standpoint is attainable from which this comparison can be made, in so far, say, as the facts of both sciences can be expressed in terms of matter and motion. But with Psychology, however much it is freed from metaphysics, all this is different. It is indeed ordinarily assumed that its subject-matter can be at once defined: "It is what you can perceive by consciousness or reflection or the internal sense," says one, "just as the subject-matter of Optics is what you can perceive by sight." Or, "Psychology is the science of the phenomena of mind," we are told again, "and is thus marked off from the physical sciences which treat only of the phenomena of matter". But whereas nothing is easier than to distinguish between seeing and hearing, between the phenomena of heat and the phenomena of gravitation, a very little reflection may convince us that we cannot in this fashion distinguish internal from external sense, or make clear to ourselves what we mean by phenomena of mind as distinct from phenomena of matter.

Let us begin with the supposed differentia of Internal and External: What are we to understand by an inner sense? The conception of a sense is in strictness rather physiological than psychological; but waiving this for the present, we may say that the psychical states directly consequent on the excitation of a particular sense are independent of feeling and volition, and liable to manifest themselves *ex abrupto* and out of all regard or relation to the existing "contents of consciousness". They are, moreover, in every respect *sui generis* as regards quality; so that no one sense can supply the materials of another, and the possession of five senses furnishes no data as to the character of a possible sixth. Now such a description will apply but very partially to the so-called internal sense. We can imagine consciousness without self-consciousness, still more without introspection, much as we

can imagine sight without taste or smell: we suppose a mouse can feel, but not that it reflects upon that fact. It must indeed be granted that without self-consciousness somewhere there could be no science of any psychical life, whether high or low; just as without hearing there could be no music. But this does not entitle us to speak of self-consciousness as a sense, nor enable us with any exactness to characterise the subject-matter of psychology. For without self-consciousness there would be not only no psychology, but no "ology" of any sort, inasmuch as self-consciousness is the first outcome of that stage of mental and social development on which the power to form and compare general conceptions depends, and is itself more or less involved in any exercise of that power. Thus we do not by means of it passively receive impressions differing from all previous presentations, as the sensations of colour for one couched differ from all he has experienced before: the new facts consist rather in the recognition of certain relations among pre-existing sensations, *i.e.*, are due to our mental activity and not to a special mode of what Kant called our sensibility. For when I taste I cannot hear that I taste, when I see I cannot smell that I see; but when I taste I may be *conscious that I taste*, when I hear I may be *conscious that I hear*: in this way all the objects of the external senses are recognised as having new relations by the mis-called "internal sense". Moreover the facts so ascertained are never independent of feeling and volition and of the contents of consciousness at the time as true sensations are. But perhaps the most summary way of disposing of the conception of an internal sense is to cite the evidence of the mental pathologist: there is no more analogy between self-consciousness and a sense than there is between blindness or deafness and delirium, or what in popular language is called "being beside yourself". Or if we consult the physiologist we find there is no organ or "centre," and no evidence of any such, that could be regarded as the "physical basis" of this inner sense.

To the conception of an internal perception or observation the preceding objections do not necessarily apply, that is to say, this conception may be so defined that they need not. But then in proportion as we escape the charge of assuming a special sense which furnishes the material for such perception or observation, in that same proportion are we compelled to seek for some other mode of distinguishing its subject-matter. For, so far as the mere mental activity of perceiving or observing is concerned, it is not easy to see any essential difference between this process whether the observations are

psychological or physical. It is quite true that the so-called psychological observation is more difficult, because the facts observed are often less definite and less persistent, and admit less of actual isolation than physical facts do; but the process of recognising similarities or differences, the dangers of mal-observation or non-observation are not materially altered on that account. It may be further allowed that there is one difficulty peculiarly felt in psychological observation, the one most inaccurately expressed by saying that here the observer and the observed are one. But this difficulty is surely in the first instance due to the very obvious fact that our powers of attention are limited; so that we cannot alter the distribution of attention at any moment without altering the contents of consciousness at that moment. Accordingly, where there are no other ways of surmounting this difficulty, the psychological observer must either trust to representations at a later time; or he must acquire the power of taking momentary glances at the psychological aspects of the phase of consciousness in question. And this one with any aptitude for such studies can do with so slight a diversion of attention as not to disturb very seriously either the given state or that which immediately succeeds it. But very similar difficulties have to be similarly met by physical observers in certain special cases, as, *e.g.*, in observing and registering the phenomena of solar eclipse; and similar aptitudes in the distribution of attention have to be acquired, say, by extempore orators or skilful surgeons. Just so little, then, as there is anything which we can with propriety call an inner sense, just as little can we find in the process of inner perception any satisfactory characteristic of the subject-matter of psychology. The question still is, What is it that is perceived or observed? and the readiest answer of course is: Internal experience as distinguished from external, what takes place in the mind as distinct from what takes place without.

This answer, it must be at once allowed, is adequate for most purposes, and a great deal of excellent psychological work has been done without ever calling it in question; yet the history of philosophy seems to show that much of the confusion in modern theories of knowledge is due to this unquestioning acceptance of the distinction of internal and external experience by psychologists. It is then here contended that—however valid from certain points of view, and when duly explained—this distinction still is not one that can be drawn from the standpoint of psychology, at least not at the outset. From this standpoint it appears to be either (1) inaccurate or (2) not extra-psychological. As to (1)—the

boundary between the internal and the external was, no doubt, originally the surface of the body, with which the subject or self was identified: and in this sense the terms are of course correctly used. For a thing may, in the same sense of the word, be "in" one space and therefore not in, *i.e.*, out of, another; but we express no intelligible relation if we speak of two things as being one in a given room and the other in last week. Anyone is at liberty to say if he choose that a certain thing is "in his mind"; but if in this way he distinguishes it from something else not in his mind, then to be intelligible this must imply one of two statements, *viz.*, that the something is actually or possibly in some other mind, or, his own mind being alone considered, that at the time the something else does not exist at all. Yet, evident as it seems that the correlatives in and not-in must both apply to the same category, whether space, or time, or presentation (or non-presentation) to a given subject, and so forth; we still find psychologists more or less consciously confused between "internal," meaning "presented" in the psychological sense, and "external," meaning not "not-presented" but corporeal or oftener extra-corporeal. But (2), when used to distinguish between presentations, (some of which, or some relations of which with respect to others, are called "internal," and others or other relations, "external") these terms are at all events accurate: only then they cease to mark off the psychological from the extra-psychological, inasmuch as psychology has to analyse this distinction and to exhibit the steps by which it has come about. On this ground objection may be taken also to the negative differentia of inextension proposed by Dr. Bain, as well as to Kant's doctrine that a special kind of inextension, *viz.*, time, is the form in which psychical facts appear. As to Dr. Bain, he on second thoughts rightly disposes of his own distinction. After stating that "the department of the Object, or Object-World, is exactly circumscribed by one property, Extension," and that "the world of Subject-experience is devoid of this property," so that "all that comes within the sphere of the subject is spoken of as the Unextended;" he proceeds to say: "But, as *Object-experience is also in a sense mental*, the only account of Mind strictly admissible in scientific Psychology consists in specifying three properties or functions . . . through which all our experience, as well Objective as Subjective, is built up".¹ The fact is, then, that this distinction too is made from another than the psychological standpoint; from that,

¹ *Mental Science*, pp. 1 and 2.

viz., of a theory of Knowledge, as when Dr. Bain in opening his work says: "Human Knowledge, Experience or Consciousness falls under two great departments," &c.—a statement, by the way, which would surely have been clearer both in itself and in relation to its context had the word Consciousness been omitted. Similar remarks apply also to Kant quite apart from any discussion of his theory of an internal sense. It may be true that from the point of view of a theory of Knowledge psychical facts *as known* are but a flux of presentations, whereas physical facts *as known* are the positions and motions of bodies attracting and repelling each other according to mathematical laws; but this does not really help us to define psychology. For the facts of psychology and the facts of physics are, as known *to somebody*, both alike facts of psychology, whatever else they may be. It is not, however, worth while to discuss this point further at this stage; but we have still to examine whether the distinction of phenomena of Matter and phenomena of Mind furnishes a better dividing line than the distinction of internal and external.

The term Phenomenon has several meanings, or rather several implications, of which now one, now another, is emphasised. Thus we have—(1) what is manifest, patent, evident: here the implications are that there are eyes to see, ears to hear, &c., and still more, that all such can see, hear, &c.; those that do not are not normal: this the lexicons call the objective meaning. Then we have what *appears*, as distinct from what *is* (*φαίνόμενον* as opposed to *ὄν*); and here there are two implications, on either or both of which stress may be laid: (2) on the subject side there may be error, *Schein*, as the Germans say, in place of *Erscheinung*; or (3), on the object side, what is to be seen or understood may be related in some unknown way to an unrevealed and incomprehensible *ens per se*. We may call (1) the popular meaning, (2) the sceptical, and (3) the philosophical. As popularly used, then, Phenomenon is equivalent to "fact," "event," &c., but generally with the understanding that the fact or event is of scientific interest. But, because of the flavour of (2), and the more decided flavour of (3), that are apt to hang about the term; it is surely better for purely scientific writers to make but sparing use of it, as indeed the more careful of them do. Especially is this desirable in the case of psychology, now that the Kantian use of "phenomenon" implies a view of psychical facts which some may not be prepared at the outset to accept, and which there is no need to anticipate.¹

¹ Referring of course to the rôle of the Thing *per se* in the "*Ästhetik*," and especially to the theory of an inner sense.

Let us, however, retain for a moment the popular use of the word, because its implications may serve to make clearer the difficulty of distinguishing between the facts of psychology and the facts of the so-called Object-sciences. The word Phenomenon, as we have seen, implies presentation to a subject, and wherever there is presentation to a subject it will be allowed that we are in the domain of psychology. But in talking of physical phenomena we, in a way, abstract from this fact of presentation. Though consciousness should cease, the physicist would consider the sum total of objects to remain the same: the orange would still be round, yellow and fragrant as before. For, the physicist—whether aware of it or not—has taken up a position which for the present may be described by saying that phenomenon with him means appearance or manifestation, or—as we had better say—object, not for a concrete individual but rather for what Kant called *Bewusstsein überhaupt*; or as some render it, the objective consciousness; i.e., for an imaginary subject freed from all the limitations of actual subjects save that of depending on “sensibility” for the material of experience. However, this is not all, for as we shall see presently, the psychologist also occupies this position; at least if he does not, his is not a true science. But further, the physicist leaves out of sight *altogether* the facts of attention, feeling and so forth, all which actual presentation entails. From the psychological point of view, on the other hand, the removal of the subject removes not only all such facts as attention and feeling, but all presentation or possibility of presentation whatever. Surely, then, to call a certain object, when we abstract from its presentation, a material phenomenon; and to call the actual presentation of this object a mental phenomenon, is a clumsy and confusing way of representing the difference between the two points of view. For the terms “material” and “mental” seem to imply that the two so-called phenomena have nothing in common, whereas the same object is involved in both; while the term “phenomenon” implies that the point of view is in each case the same, when in truth what is emphasised by the one the other ignores. It appears, then, that we are once more bound to conclude that Psychology cannot be marked off from the other sciences by any method which suffices to mark these off from each other. We shall see this still more clearly, perhaps, if we reflect for a moment on the current dualism of Mind and Matter, and we can do this without any serious trespass on the metaphysical domain.

But probably it will be at once urged, Why meddle with metaphysics at all, if psychology is really an empirical

science? For nobody takes up psychology in these days without religiously disavowing all metaphysical assumptions; but then, it is to be feared these good people forget how many such assumptions they are liable to be committed to by common language. Hearing so often that philosophy is the vocation of a select few, we little dream that our great-grandmothers' philosophy is embodied in our mother-tongue. No doubt it would be pedantic to quarrel with the ordinary use of the terms Matter and Mind; and there is no need to maintain that ontology in any form is chimerical. But it is surely within our province to inquire whether the conception of Matter and Mind as two substances is not scientifically obscure and one to be avoided. For the term substance is not straightway applicable in the same sense both to material and mental facts. When we speak of matter as a substance, the conception we form is due to certain relations among presentations as given to us; but when we speak of psychical substance we mean the subject to whom these presentations are given. And if we proceed to call our presentations modes or states of such a substance, we are subsuming a more general relation under one more special. The presentation of an object to a subject is, it is maintained, a fact co-extensive with our experience: whereas that relation among presentations which has led us to the conception of substance is but one among others. We cannot, then, include the relation of subject and object in presentation under the category of substance and mode without making the induction that a conception which is appropriate to a part of our experience is so to all. Such induction may turn out true, but it is at least premature. The subject might be rightly ranged under the category of Substance, even though its objects are not its modifications; but the point here urged is that Mind as a name for Subject + Presentations ought not at the outset to be brought under this category.

Paradoxical as it may appear, we must then conclude that Psychology cannot be defined by reference to a special subject-matter as such concrete sciences, for example, as mineralogy and botany are; and, since it deals in some sort with the whole of experience, it is obviously not an abstract science, in any ordinary sense of that term. To be characterised at all, therefore, apart from metaphysical assumptions, it must be characterised by the standpoint from which this experience is viewed. It is by way of expressing this that widely different schools of psychology define it as subjective, all other positive sciences being distinguished as objective. But this seems scarcely more than a first approximation to

the truth; and, as we have seen incidentally, is apt to be misleading. The distinction rather is that the standpoint of psychology is what is sometimes termed "individualistic," that of the so-called object-sciences being "universalistic": both alike being objective in the sense of being true for all, consisting of what Kant would call judgments of experience. For psychology is not a biography in any sense: still less a biography dealing with idiosyncrasies, and in an idiom having an interest and a meaning for one subject only, and incommunicable to any other. Yet, notwithstanding this avowal, it would doubtless be thought by many a rash thing in these days to maintain that the standpoint of psychology is individualistic. Locke, Berkeley, and Hume, on the one hand, Leibniz and the Wolfians on the other, have, we are taught, combined to bring individualism into discredit, and its day is over. It is true that some of the best philosophical writing we have had in England of late has been directed to showing the shortcomings of these two lines of thought. But perhaps the remark may be ventured that our English neo-Kantians, as they are sometimes styled, scarcely take all the pains they might to distinguish between psychology and epistemology. The fault of Locke and Berkeley was that they regarded the theory of knowledge as a psychological problem, and set to work accordingly to study mind simply for the sake of this problem, but none the less their standpoint was the proper one for the science of psychology; and however surely their philosophy was foredoomed to a collapse, there is no denying a steady psychological advance as we pass from Locke to Hume and his modern representatives. By "idea" Locke tells us he means "whatsoever is the object of the understanding when a man thinks" (*i.e.*, is conscious), and having as it were shut himself within such a circle of ideas he finds himself powerless to explain his knowledge of a world that is independent of it, but he is able to give a very good account of some of these ideas themselves. He cannot justify his belief in the world of things whence certain of his simple ideas "were conveyed" any more than Robinson Crusoe could have explored the continents whose products were drifted to his desert island, though he might perhaps survey the island itself well enough. Berkeley accordingly, as Prof. Fraser happily puts it, abolished Locke's hypothetical outer circle. Thereby he made the psychological standpoint clearer than ever—hence the truth of Hume's remark, that Berkeley's arguments "admit of no answer"; at the same time the epistemological problem was as hopeless as before—hence again the truth of Hume's

remark that those arguments "produced no conviction". Of all the facts with which he deals, the psychologist may truly say that their *esse* is *percipi*; inasmuch as all his facts are facts of presentation, are ideas in Locke's sense, or objects which imply a subject. Before I became conscious there was no world for me; should my consciousness cease, the world for me ceases too: had I been born blind, the world would for me have had no colour; if deaf, it would have had no sounds; if idiotic, it would have had no meaning. Psychology, then, never transcends the limits of the individual: even the knowledge that there is a real world, as common-sense assumes, is, when psychologically regarded, an individual's knowledge, which had a beginning and a growth, and can have an end. In fact, for the psychologist it is not essentially knowledge, but partly possible, partly actual, presentations in the mind of A, B, or C: just as this page is for the printer essentially "copy," and only for the reader essentially "discourse".¹ But what the psychologist has to say about knowledge is, of course, itself knowledge, *i.e.*, assuming it to be correct; the knowledge about which he knows is however for him not primarily knowledge, but "states of consciousness". But now though this Berkeleyan standpoint is the standpoint of psychology—as we find it occupied, say, by J. S. Mill and Dr. Bain—psychology is not pledged to the method employed by Berkeley and by Locke. Psychology may be individualistic without being confined exclusively to the introspective method. There is nothing to hinder the psychologist from employing materials furnished by his observations of other men, of infants, of the lower animals, or of the insane; nothing to hinder him taking counsel with the philologist or even the physiologist, provided always he can show the psychological bearings of these facts which are not directly psychological. In some cases this is easy and certain, nay, almost instinctive; in others it is difficult and problematic at the best. Nor again are we bound, because we take the individualistic standpoint as psychologists, to accept the philosophical conclusions that have been reached from it; unless, indeed, we hold that it is the right point of view for philosophical speculation: a psychologist *may* be an idealist in Berkeley's sense or in

¹ Cf. Art. "Philosophy and Psychology," by the Editor, MIND XXIX., pp. 15, 16. This seems the most fitting place for the writer to state that this paper was planned and in good part written before the appearance of the Editor's article in the last number rendered much of it superfluous. The Editor, however, wishes it to appear for the sake of other papers that are to follow.

Fichte's, but he need not. He is just as free, if he see reason, to call himself after Hamilton, a natural realist; only psychology will afford him no safe warrant for the realism part of it. Once again the psychological standpoint shuts out dualism, and indeed any form of ontology, and along with them the representative theory of perception: these too may be true, but from this point of view there is no contrast or parallax possible which can give them a psychological basis.

It may perhaps serve to set this view of psychology in a clearer light if the reader will allow a brief digression, in which the attempt will be made to exhibit more explicitly the epistemological standpoint as it is here conceived. In the course of the development of that theoretical Individual whom psychologists sometimes unconsciously assume in order to avoid the difficulties besetting questions of heredity—the Individual, that is, who is taken to have existed continuously from the dawn of psychical life—there was a stage, not long posterior to the acquisition of language, at which the experience of one individual, so far as this could take the form of conceptions and find expression in words, became common property. At this point a new conception became possible, which we may call for the present, that of Mind in general, or Mind with a capital M. The term is not a happy one, neither is it accurate, but it is current, and some of the confusion between psychology and philosophy is due to its general use. This interchange of experience by means of speech not only sharpens, as iron sharpeneth iron, but brings into existence a higher kind of Experience, in which the individual transcends the limitations of his own direct perceptions. This "intersubjective intercourse"¹ reveals the fact that certain uniformities of coexistence and sequence among perceptions are generally or universally experienced. There is no need to say: When A sees x he next hears y ; for the like holds of B, C, D, . . . ; it is possible to say at once: The lightning flash is followed by thunder. Once started upon this track progress may be indefinite: ever new investigators, ignoring the subjective interests of what they perceive, add to the stock of common Experience. This higher Experience, it need hardly be said, consists of conceptions, not of perceptions, which *quâ* perceptions can only be subjective and individual. It is so far independent of place, time and person that it can be embodied in symbols and applied in the comprehension of perceptions by any mind indifferently for

¹ I am indebted for this term to Dr. Dühring's *Natürliche Dialektik*, s. 2.

whom the constituent symbols have a meaning. It is thus at once Thought and Knowledge—the product of combined human activity and a clue or scheme, more or less accurate and complete, of what was, is, or will be perceivable. When so regarded the organisation of this joint product becomes itself the object of investigation, and a new set of conceptions emerges. It is found to have a certain general structure, which we term logical: that is, it can be represented as compounded of hierarchies of conceptions having “the matchless beauty of the Ramean tree,” and of judgments expressing certain relations among these, and depending on other judgments as their logical conditions. Such an analysis leads to the detection of sundry conceptions as yet inchoate or ill-assimilated, and sundry contingent judgments having no logical warrant. It thus suggests an ideal of what a system of knowledge might be, and it becomes possible to give a formal outline of this ideal. But what of those outstanding knowledges that have not yet been caught up into the ideal? For some a place in the general system is only a question of their own more perfect elaboration; but with others there is a more serious difficulty. A place for them can only be found at the expense of knowledges already recognised as logical members of the ideal in course of consummation. Here is a new and hard problem: how are we to decide between knowledge and knowledge? But again, even in the orthodox ideal, as at present realised—which-ever it is—there are certain highest conceptions; how are these conceived? and certain so-called principles, assumed but not subsumed; what warrant have they? It is to meet questions like these that there has arisen a theory of Knowledge.¹

This meagre outline may suffice to exhibit generally the character of the subject-matter and methods of a scientific epistemology. The subject-matter is this body of knowledges, and from a comparison of these the ideal of knowledge is derived: the part played by mathematics in this respect from Descartes onwards to Kant of course needs no mention. The logically more coherent mass effects the disintegration of the less coherent, and not contrariwise: *Magna est veritas et praevallet*. And the critical study of this epistemological structure itself perhaps refutes, as it proceeds, some of the

¹ There is indeed a very different question often associated with the term, *viz.*, Are things known as they are in themselves? To the question as so stated no answer has been, or indeed ever will be given, for it is nonsensical. Resolved into the rational form: Are things truly or really known? it is but another aspect of the problems mentioned above.

hypotheses with which it began. Like Locke's "poor Indian philosopher," for example, "who imagined that the earth always wanted something to bear it up," the student of this higher logic might set out with the notion that as *axiomata media* were logically dependent, so Principles must either be deduced or else have only a subjective guarantee. But he may find there is a sort of gravitation in knowledge too, that what seemed true of the parts is not true of the whole, that so far as first principles are reached, the system is logically rounded off by the *ἀπαγωγή εἰς ἀδύνατον*.¹ We sometimes hear talk of the criteria of certainty, and certainty it must be admitted is a purely psychological fact. But strictly speaking there is no such thing as a *criterion* of certainty as distinct from a criterion of truth or knowledge. The certainty with which one man, or even all men, may assent to a proposition will not justify the critical philosopher in accepting it as true; but, contrariwise, its truth will justify their certainty. Though we have every reason to regard certainty as a valuable preliminary guide to truth, it is not the ultimate criterion. But it may be said:—"There is at all events one case in which certainty and truth are one and inseparable, *viz.*, when I turn my attention to what is passing in my own consciousness and say, for example, I am now feeling cold, or perceive that the fire is out. Of this testimony of consciousness I am absolutely certain, and there can be no knowledge if this is not true, and yet there is no evidence of this truth but my certainty." Good, but so much of this as is "absolutely certain" is not knowledge, but material for knowledge: so much of it as can claim to be knowledge is not absolutely certain. What is beyond doubt is the existence of your presentation; what is not, is your description, analysis or classification of it. It is with such intellectual assimilation that knowledge about this state of consciousness begins, and at once a distinction is possible between the process psychologically considered and logical methods for securing a correct result—between subjective perception and scientific observation.

Comparing Psychology and Epistemology, then, we may say that the former is essentially genetic in its method, and might, if we had the power to revise our existing termino-

¹ "Prinzipien können als solche nicht genetisch entwickelt werden; denn sonst wären sie keine Prinzipien und hätten vielmehr einen fremden Anfang. Sie sind daher nur durch einen Erkenntnisgrund—im Gegensatze des Sachgrundes—darzuthun. Alle blosse Erkenntnisgründe laufen auf einen indirekten Beweis hinaus." Trendelenburg, *Logische Untersuchungen*, 1862, ii., 406.

logy, be called Biology; the latter, on the other hand, is essentially devoid of everything historical, and treats, *sub specie eternitatis*, as Spinoza might have said, of Human Knowledge, conceived as the possession of Mind in general. The principles of psychology are part of the material, the logical worth and position of which a theory of knowledge has to assign; but they are not, neither do they furnish, the critical canons by which knowledge is to be tested. Yet in three several ways epistemology has been supposed to depend upon psychology, in so far, *viz.*, as psychology might explain the origin of knowledge, the process of knowing, or the limits of the knowable. But it can answer none of these questions in the way required. To ask them at all betrays serious misconception as to the nature of psychology. (1) Even assuming that certain forms or facts of knowledge are what they are, not because our experience has been what it has; but because before all experience our nature was so preformed; still, for aught we could see to the contrary, these innate elements might like some bias in the blood—to which indeed Descartes compared them—have required the corrective medicine of experience. Nay, it is hardly too much to say that at any given stage of development this is what happens: *experientia docet*. Psychological innateness has then no necessary connexion with logical priority except for a philosophy that confounds knowing and thinking. (2) Again, the *process* of knowing throws no light on the “reality” of knowledge. There have been those who regarded psychology as a species of mental chemistry; but if it is, it can never resolve a perception into a ternary compound of elements contributed partly by the external reality, partly by a sensory medium, partly by the mind. It can show under what circumstances a given individual will come to regard this or that as conceivable or inconceivable, and be subjectively certain that his conceptions tally with things: how it was, for example, that the old Chaldean was just as sure of his astrology as some modern Laplace of his astronomy; but it can contribute nothing towards the decision in an imaginary dispute between them. All that psychology can tell us only concerns the relation of a given concept *a* or *b* to other concepts in the mind of *M* or *N*, and the intellectual feelings that accompany any judgments they make concerning these concepts; but the question in epistemology is not what *will* *M* or *N* predicate of *x* or *y*, but what *ought* he to predicate, or rather what ought to be predicated. (3) Finally—it is, no doubt, as Locke says, “useful to know the extent of our comprehension”; but can we by “an inquiry into the nature of the understanding,”

which is to reveal "the utmost extent of its tether," ascertain the limits of human knowledge? May we not say of such an attempt what Locke himself said of the attempt to imagine infinity: it is like trying "to adjust a standing measure to a growing bulk"? Psychology can tell us what senses we have and what is the sensibility of each, but it cannot even then say how far their deficiencies may be met by other means: had Locke lived to-day he would hardly, for example, have maintained as sweepingly as he did, that all connexion between secondary and primary qualities is undiscoverable. Psychology may tell us perhaps what are the limitations of consciousness from moment to moment ("die Enge des Bewusstseins," as the Herbartians say); it may even ascertain statistically the stock of ideas an average mind will hold, but it can fix no limit to the logical extension or intension of such ideas, to the facilities afforded by symbols for their readier command, or to the amount of simplification or explanation of which they admit. One factor among many upon which depends the rate of growth of knowledge is this "extent of our comprehension"; just as the rate at which we should bale out the Atlantic would depend in part on the size of our buckets. But what actually limits knowledge at any one time is definite ignorance, and whenever such ignorance has been removed it has been not by any extension of the psychological tether, but by the methodical application of existing knowledge by means of experiment, criticism, hypothesis and verification, to the obstructing *ignotum*. So far knowledge has contained the means of its own advance, and mere psychology cannot tell us whether this is to hold always or must cease at some point, while there remain possibilities of knowledge still beyond.

Psychology seems in fact far more intimately related to Metaphysics, that is to say to theories about Being and Becoming, than to theories of Knowledge. Its connexion with the latter, as terms like Sensationalism and Rationalism show, has been due to confusions such as we have been just discussing. But between monistic or monadistic theories of the Universe, whether idealistic or realistic, and the dualism of ordinary common-sense, if a decision is possible at all—it is, at all events, not possible without taking account of psychology. The natural outcome of speculation from the psychological standpoint is idealism, while from the standpoint of the physical sciences materialistic speculations are an equally natural result. In everyday life our practical interests lead us to occupy now the one point of view and

now the other with no concern about their general relations. In some cases facts of mind appear to have no correlatives or equivalents in facts of body and *vice versa*; in others the relation is so intimate and familiar that we talk indifferently of mind and head, heart and feelings, keen sight and keen eyes, skill and cunning, or dexterity and handiness. Hence the dualism of Mind and Matter and the conception of man as a *mélange* of both with which modern speculation begins. Since the time of Descartes our knowledge of particular facts connecting these two "aspects," as it is now the fashion to call them, has enormously increased. Evidence is advanced for an automatism more thoroughgoing than any of which Descartes dreamed. Man, the paragon of animals, is held to have been evolved from some structureless protozoon, mind and organism advancing step by step together. The manifold forms of reflex action, and the ingenious adaptations of structure found not only in animals but even in plants, seem to imply something psychical where there is else no evidence of it. Small wonder, then, that we hear of physiologists and psychologists who say:—We have found our several phenomena exactly related yet differing indeed, but differing only as the concave differs from the convex.¹ The wonder is the less when we are told that modern physics has made for ever clear the impossibility of an interaction between mind and matter. Even Descartes and Locke sometimes allowed themselves to talk of an *influxus physicus*. But now it is said, we are shut up to some form of occasionalism unless we resolve this "mystery of mysteries," as Hamilton termed it, by the assumption of a psycho-physical monism. Whatever be the philosophical value of such a doctrine, it is manifestly desirable, at a time when other sciences are perplexed between the teleological and the mechanical, for psychology to be, so to say, as psychological as it can. When the relations of two sciences are in question, it is indispensable that the position and conceptions of each should be clear of all confusion. And whatever be the final outcome, it is contended that the treatment of Psychology which is known as that of subjective idealism is most likely to prove logically coherent, and is that which will best subserve the co-ordination of psychical facts with physical, when the time comes to attempt this in a scientific way.

JAMES WARD.

¹ This favourite simile of Fechner and Lewes is, as was pointed out to me by Professor Geddes, really due to Aristotle (*Eth. Nic. I.*, xiii., 10).

II.—REACTION-TIME AND ATTENTION IN THE HYPNOTIC STATE.

IN the autumn of 1881, a series of public exhibitions was given in Boston by an itinerant "mesmeriser" who was attended from city to city by a remarkable hypnotic subject whom we will designate as A. B. He was about 30 years of age, an extreme blonde, with narrow and retreating chin and protuberant brows, a cabinetmaker by trade, of fair intelligence and physical development, the head of a small family, and, he said, prone to sleep-walking from boyhood. Physicians and others elsewhere by whom he had been manipulated, had directed their attention almost solely to the determination or demonstration of the reality of his abnormal state, and had repeatedly used to this end such drastic tests as in the normal state cause considerable pain. Pistols had been discharged near his ear, sharp instruments thrust into his body, caustic substances applied to the sensitive parts of the mouth and nostrils, and strong electric shocks given through various parts of his body, so that it was with difficulty and only by promising to abstain from everything painful and unpleasant, by allowing him to bring a friend to watch me, and by a small pecuniary compensation, that he was induced to visit the laboratory at appointed intervals.

Dr. James Braid, as is well known, explained most of the phenomena to which he gave the name of hypnotism as due, not to odic or mesmeric or vital force or to any influence which came from without or passed beyond the limits of the human body, but only to an unusual degree of "concentration of Attention" variously directed by suggestions of many kinds. Although confessedly not a psychologist, he believed he had succeeded in showing that nothing transcendent but only subjective phenomena were involved, and quotes approvingly a statement describing his work in this field as a study of the "pathology of attention". The important researches of Heidenhain in Germany, though perhaps fortunately conducted without full understanding of Braid's results, and though fruitful and suggestive in the highest degree, were not long continued after Bürger demonstrated that all his effects upon hypnotic subjects might be produced by suggestion without any

material stimuli¹ or physical contact. Although G. Schneider has distinctly asserted that the psychological cause of hypnotism must be found in attention, Dr. G. M. Beard of New York has urged this theory more radically and consistently than any one since Braid, in 1877 and in a number of publications since. On the other hand, the opinion has been expressed in nearly all of the many recent studies of Reaction-time or the Personal Equation, that the most effective way of reducing this was by a strong concentration of attention upon the expected stimulus and the intended reaction. Although fatigue, practice, and strength of the stimulus are co-factors in determining reaction-time, it is thought that by opening certain nerve-tracts or by preparatory innervation of the reacting muscles, the attention acts as a special agent in this acceleration.² Thus it had long seemed desirable to submit the hypnotic to the test of the physiological theory of attention. To this end the first object with A. B. was to determine the simple reaction-times in the normal and in the abnormal state respectively.

For this purpose the following arrangement of apparatus was found serviceable. The primary electric current was made to pass through a Halske hammer in such a way as to be interrupted whenever the finger of the operator broke the contact with the platinum-point of the screw, by pressing down the spring which held the lever against it. The breaking of this primary circuit released a steel rod vibrating 107 times per second, which had been drawn and held in a slightly bent position by a magnet in the same circuit, and at the same instant gave a distinct shock to the left forefinger of the hypnotic subject through a secondary or alternative circuit (*Nebenschliessung*). He was directed to press the lever of a relay key with his right forefinger (which closed the primary current and arrested the vibration of the rod by drawing it firmly to the magnet again), as soon as possible after feeling the shock in the left forefinger, having been placed in another room that he might not hear the click of the operator's key and react from a quicker perceived auditory impression. Thus the time during which the rod was vibrating would represent the reaction-time desired. To record these vibrations a tinsel pen was fastened to the end of the rod and allowed to play upon the surface of a hori-

¹ See Note entitled "Recent German Researches on Hypnotism," by the writer (MIND XXI. 98), for digest and literature of these researches up to the date of writing.

² Cf. *inter alia*, Wundt, *Grundz. der Physiol. Psychologie*, 2te Aufl. ii. 226, and Hermann, *Handb. der Physiologie*, ii. 286, &c.

zontal Marey drum covered with smoked glazed paper, the magnet and vibrating rod being supported on a Marey screw sledge apparatus, and this moved slowly from one end of the drum to the other by a band connecting wheels on the axes of the drum and the screw of the sledge respectively. Thus it was possible to record 40 or 50 reactions without stopping the apparatus.

After the first series of reactions in the normal state had been taken, and a few minutes allowed for rest, it was with some anxiety that I saw the attendant make the necessary "passes" and seat A. B. again before the apparatus. Previous subjects had not been able to hold their attention to the work of making the reactions, or failed to comprehend what was wanted, or passed from the abnormal state into a state closely resembling sleep, and soon ceased to react at all. A. B., however, after a time, not only reacted to every stimulus in a series of from 40 to 50, but pressed down the key with the right forefinger with increasing energy till towards the end of the series this movement became prolonged, violent and almost crampy, the reaction-time, however, not differing essentially from the first to the last part of the series. After he was roused, 15 minutes were allowed for rest before a final series of reactions in the normal state was made. The following table presents the average reaction-time for three observations made on successive weeks and recorded in vibrations of a rod swinging, as was above stated, 107 times per second:—

TABLE I.

NORMAL REACTION-TIME.		ABNORMAL REACTION-TIME.		NORMAL REACTION-TIME.			
Number of reactions.	Average reaction- time in vi- brations.	Number of reactions.	Average reaction- time in vi- brations.	Number of reactions.	Average reaction- time in vi- brations.	Average time of the two normal series.	Number of the series of observations.
31.0	32.3	50.0	20.7	39.0	42.0	37.1	I.
22.0	44.2	49.0	18.3	35.0	39.1	41.6	II.
36.0	29.0	49.0	23.1	28.0	31.0	30.0	III.
	35.1		20.7		37.3		
	0.328		0.193		0.348	Average time in the three series in seconds.	

From this table it appears that the reaction-time, though reduced in the abnormal state from 33 to 19 hundredths of

a second, is by no means extremely small. With scientific men who have measured their reaction-time from hand to hand in a similar way, the results vary from 108 to 191 thousandths of a second.¹ But for one presumably not practised either in such reactions or in fixing the attention very long or sharply the result is noteworthy.

Scarcely less so is the following table of average errors, in which all those reaction-times in excess of the average reaction-time are themselves averaged in the plus column, and those less than the average reaction-time are averaged in the minus column, no account being taken of those few cases in which the time of a single reaction chanced to coincide with the average time of the entire series:—

TABLE II.

NORMAL.		ABNORMAL.		NORMAL.		No. of the series of observations. Cf. Table I.
+	—	+	—	+	—	
8.7	8.5	9.8	3.2	15.5	7.6	I.
18.5	14.8	3.5	3.4	9.6	11.7	II.
7.1	7.6	12.0	3.8	5.5	5.2	III.

The most obvious result from this table is the very slight variation of the minus average error, amounting to but .032 of a second, and indicating an approximation to a limit or minimal value not apparent in the reaction of the normal state. In the abnormal state the reaction-times are much more uniform than in the normal state, and the reactions in excess of the average time are few, and their excess correspondingly great, while in three or four individual reactions the time is reduced almost to one tenth of a second. In the second observation, when the sleep seemed soundest and the reaction-time was least, the average error in excess was also very small, suggesting the possibility that the few slow reactions which so increased the average reaction-time in the first and especially the third observation were due to ineffective tendencies to awake. 329 reactions, however, are too few to base any conclusive inferences upon, and at this point our subject and his "mesmeriser" whom he attended went to a distant city, and no suitable subject has yet been found on which to continue our observations.

¹ See Hermann's *Handbuch der Physiologie*, ii. 263.

Along with these observations another series of studies of simple Association-time, suggested by the methods of Galton¹ and Wundt,² was begun upon A. B. and another hypnotic subject. Lists of familiar monosyllabic words were carefully prepared beforehand in perpendicular columns on long strips of paper. When the hypnotiser pronounced a word in this list, the hypnotised subject was directed to think *as quickly as possible* of any other word suggested by it, and pronounce it while an observer recorded as nearly as possible upon the revolving drum the instant when the hypnotiser's word and the subject's response respectively were heard, that the "association-time" might afterwards be measured by subtracting from the total interval the time occupied in reacting upon the simple apprehension of the hypnotiser's word. In these experiments it has been assumed that the first word suggested to the subject's mind by the word thus sprung in upon his consciousness will lie along the track of easiest, quickest, or most automatic association, which track would be left for less frequented lines, somewhat in proportion to the time taken for deliberation or for choosing between several words simultaneously suggested by the "call-word". Indeed Galton intimates that his method lays bare the habitual ruts of thought in a way which exposes mental character to an often embarrassing extent. In the way above described, and by having one long familiar with the subject to control him, as far as it was possible to be done for this purpose, A. B. was caused to react on 40 words in the normal, and then on as many more in the abnormal state, reversing this order (*i.e.*, pronouncing to the subject in the normal the same list of words that had before been given in the abnormal state and *vice versa*), at the next sitting, three or four days later, and numbering each word and series on the revolving drum in correspondence with the order of words in the lists, so as later to connect with each reaction its time.

The list comprised about 340 words, yet the simple observations, though more numerous than those of either Wundt or Galton, seem to the writer far too few to warrant any definite inferences as to the question chiefly contemplated at the outset, *viz.*, What are the laws or categories, and what is the time of the various kinds of association in the normal and abnormal states respectively. Another negative result was that, except in time, no greater difference appeared between two successive reactions from the same list of words

¹ *Brain*, July, 1879, p. 149, *et seq.*

² Dr. M. Trautscholdt, in Wundt's *Philosophische Studien*, i. 2. s. 229.

whether the subject was in the same state during both series or in the normal state during one series and in the abnormal state during the other. An exception to this generalisation, however, may be noted in the case of a third finical subject who affected latinisms in the normal state, responding, *e.g.*, to the series 'saw,' 'drive,' 'file,' 'church,' 'pew,' by 'divide,' 'advance,' 'wear away,' 'clergyman,' 'occupant,' respectively when normal, and by 'board,' 'go,' 'nail,' 'pew,' 'sit,' when hypnotised. In both states in all subjects a strong tendency was noted, amounting to at least 24 per cent. of the whole number of reactions, to follow the sentence-order in associating words. 'Sit,' *e.g.*, was responded to by 'down,' 'eat' by 'enough,' 'late' by 'come,' 'rail' by 'road,' 'lag' by 'behind,' 'paint' by 'brush,' 'kill' by 'don't,' 'sleep' by 'sound,' &c. Next in frequency, both in the normal and in the abnormal series—amounting, as approximately as such classification could be made, to 14 per cent. of all—were what may be called the associations of common life: *e.g.*, 'speak' 'read,' 'hot' 'cup,' 'toe' 'foot,' 'sleep' 'bed,' 'write' 'pen,' 'sun' 'moon,' 'dine' 'supper,' 'fat' 'tallow,' &c. Another category of some 8 per cent. is alliterative or rhythmic: *e.g.*, 'slice' 'lice,' 'rage' 'range,' 'gape' 'gob,' 'dough' 'door,' 'scrap' 'strap,' 'just' 'joint,' &c. These seemed to predominate slightly in the abnormal state.

This latter state, however, presented some unlooked-for peculiarities. Nearly 5 per cent. of the words given in the abnormal state elicited no response whatever, the subject apparently not hearing them, though they were spoken distinctly and near his ear. These words—'sit,' 'wish,' 'tie,' 'tell,' 'right,' 'hate,' 'skin,' 'throw,' 'thick,' present no obvious difficulties, and were responded to readily enough in the normal state, as indeed were some of them which chanced to be repeated in a subsequent abnormal state. Again, 2 per cent. of the words in the abnormal state were simply repeated, as naïvely as though that were what was required, although this was not once observed in the normal state. A tendency was also observable to repeat a responsive word several times in a series of reactions, whenever it would fit, and in the case of one subject when it was quite inappropriate. In a series of 23 words, *e.g.*, 'change,' 'break,' 'run,' 'hold,' 'speak,' were all responded to by '*fast*'. In a series of 18 words, 'wife,' 'drink,' 'lug,' and 'lick' were all responded to by '*up*'. The second subject responded to 'pound,' 'bite,' 'toil,' 'kick,' 'stick,' 'send,' and 'our' alike by '*hard*'—these words occurring within a series of 26 words. Again, 'stoop,' 'rest,' 'low,' 'verb,' 'fault,' 'hatch,' were all

responded to by 'high'. Occasionally no coherence whatever between the call-word, and the response was apparent in the abnormal state—e.g., 'Alps' 'me,' 'art' 'you,' 'glass' 'boot,' &c. Not unfrequently the articulation was imperfect, and the abnormal reactions were so quick that sometimes the latter part of the word was not heard. 'Sword,' e.g., was understood 'sew,' and the response was 'needle'; 'ripe' was heard as 'rye,' and the response was 'wheat'; 'like' was heard as 'light,' and the response was 'dark'. When several words are pronounced alike, or when one word has several connotations, the tendency was observed in both states to prefer the more material or sensuous meaning except when this tendency was overruled by the influence of analogy with other words near it in the series. When, e.g., the preceding word was 'post,' 'not' was apperceived as 'knot,' as appears from the reaction '*pine*,' but when '*will*' had just preceded, 'knot' was taken as 'not,' and the reaction was 'why'. The words 'lie' and 'kill,' happening to come near the end of one abnormal series, seemed to excite A. B. as if they caused dreams of scenes in which he was concerned with actions represented by these words. Finally, it may be mentioned that in all the word-reactions, as in all the simple reactions, the reaction-time was shorter and more uniform in the abnormal than in the normal states.

In discussing these results, it seems first that fresh ground is gained for confidence in only those methods which enable all phenomena of this class to be studied without taking the character of the subject into account. It is true that no one can define the field for possible conscious imposition and fraud with absolute certainty, but on the other hand the best men are very easily deceived, and when the experience to be interpreted or narrated presents anything unusual, the strongest subjective conviction is anything but scientific. When, as in the Breslau researches, the axes of the two eyes are made to diverge, one to roll up and the other down; when all the complex phenomena of colour-blindness tested by the subtlest methods are consistently produced in one eye, the other remaining normal; when a normal eye suffers an accommodation-cramp so intense as to read very fine print at a distance of an inch from the anterior surface of the cornea; when ignorant working-men write backwards or pronounce long sentences which are repeated to them in a foreign language; and when the sense of dizziness from whirling about seems mainly abolished,¹—the reality of an

¹ See Dr. Beard's letter in an article on "The Sense of Dizziness in Deaf-mutes," by Prof. W. James, *Amer. Journal of Otology*, iv. (Oct., 1882), 15.

abnormal state of some kind cannot be disputed. So, too, when A. B. can and does reduce his reaction-time as in Table I. at the first sitting, and can gaze at a large sunny window with dilated pupils for 13 minutes without winking, and produce the other self-consistent and uniform results given above, we consider the test of the reality of an abnormal state of some kind to be better than the unflinching endurance of torture which we know to be possible with a strong will, or even than the testimony of the best men or the most respectable citizens.

The general phenomena of Attention are familiar to all both subjectively and in its more common physical effects. It is well known that the reproduction of anything similar to an expected object facilitates our perception of it, as in the oft-mentioned facts that we recognise a new word quicker if told what language it is in, or a very dimly remembered face if told where we have met it before. Expectation develops many and often unsuspected aids in apprehension, while the new or unexpected always meets more or less opposition or delay in reaching consciousness. Since the suggestive dissertation of Herbart¹ in 1822, attention has come to play a very important rôle with psychologists, with whom it has had much to do in undermining the theory of faculties, until, as is known, with Wundt it may be called the central psychic category. Though not, as several writers have lately asserted, entirely identical with apperception, which Steinthal and Lazarus make no less central in folk-psychology, it has many elements in common with it. Thus in the literature of philology and physiology, as well as in insanity, popular delusions, and education, it has come to occupy an important place. Dr. G. Buccola has lately shown² that cultured people react more quickly than the uncultured, and that the personal equation of idiots and the insane (who can rarely be hypnotised) is greatly prolonged. This latter he thinks due to distraction or defective power of voluntary attention, and he believes that only men of more or less mental power can be hypnotised. Dr. Beard,³ who has

¹ *De Attentionis mensura causisque primariis*, in *Werke*, vii. 75.

² "La durata del discernimento e della determinazione volitiva," in *Rivista di Filos. scientif.*, i., 2, p. 19.

³ See *Nature and Phenomena of Trance*, by G. M. Beard, M.D. (G. P. Putnam's Sons, N.Y.) On p. 31 is a list of the author's many publications on this subject. See also *Muscle-Reading* by same author, 1882. For further notices of the more important literature on this subject see Appendix to Prof. Ch. Bäumler's *Der sogenannte animalische Magnetismus oder Hypnotismus*, Leipzig, 1881. Also a still fuller list in G. P. Möbius, *Ueber den Hypnotismus*, Leipzig, 1881.

distinguished very clearly between the positive and negative field of hypnotic attention, compares common consciousness to a large chandelier with all its jets lighted, but burning dimly, while inducing the hypnotic state is like turning off all the jets but one, which burns all the more brightly. If these general views be correct, no one can deny its great importance for all departments of psycho-physics and education; for if psychic processes, or any considerable number of them, be reactions "delayed only for compounding," it suggests no less a problem than that of a virtual prolongation of human life, so far as it is made up of these reactions. Upon the Attention-hypothesis a great number of neural disorders are seen to be only exaggerations of states familiar to every normal mind, and we are enabled to throw overboard at once a formidable array of names and hypotheses which have long obscured and discredited facts of this order, while the field of experimental psychology is opened up still wider to those who have learned to respect and apply its methods, with no necessity for neurological science to "begin over again," as Claude Bernard is reported to have sadly feared during his last days on hearing of the first of the recent German studies of hypnotism.

The observations made on A. B. certainly do not favour the conjecture of Bain that "action from within is suspended" in this state, nor the theory of Dr. Hammond of New York, that the function of the cortex is "eliminated". It is true we cannot make even such approximate estimates as Exner assumes of the time of conducting impressions and impulses in the spinal cord;¹ but, making the most liberal allowance for spinal as well as for peripheral time, we find on record some 18 hundredths of a second in the normal and 10 in the abnormal state remaining as central or reduced brain-time, concerning the partitions of which, between the basal ganglion and the cortex, we have extremely few data for inference. The fact that, with certain subjects, stimuli, if sudden or monotonous, like abnormally long fixation, instead of causing irradiations of excitation in the nervous centres, according to Pflüger's law, or otherwise, are not diffused but accumulated and intensified, causing, *e.g.*, as in Charcot's subjects, muscular contractions to become permanent, and producing sometimes circumscribed tonic rigidity, naturally suggests that the normal power of resistance in certain vaso-motor centres controlling the blood-

¹ As is shown in Du Bois Reymond's *Archiv*, 1879, "Ueber die Abhängigkeit der Reaktionszeiten vom Ort des Reizes," by J. v. Kries and G. Stanley Hall.

supply of the brain is impaired, allowing increased vascularity, brain-blushing, or local erethism, which may also be assumed in explaining what athletes call getting the second breath, the blood being proportionately diminished in other parts of the brain. On this hypothesis an hypnotic subject would be one with an irritable habit of excessive action in these centres. Rosenthal's observation¹ that nitrate of amyl arrests hypnotism, is not inconsistent with this hypothesis, which on the whole is more favourable to the theory of restricted diffusion of stimulus within the highly vascular centre than to the automatist's view that only lower centres are active in the hypnotic state.

Behind the circulatory is of course always the molecular aspect of the cerebral changes, which Tamburini thinks should be chiefly regarded in judging the various degrees of this state from gaze to coma. Except Wundt's inference from his studies of reflex action, that the excitatory is preceded by an inhibitory stage of cell-action, and the fact that the vigour of cell-action, and perhaps the evolution of heat, does not coincide with the increase of blood-supply, very little is known here. In the dread of admitting the study of psychoses into physiology, we may speak of the "lability" of passion and irrepressible volition, or of the erethism of temper and that too with real and increasing advantage; but in the study of our central question, *viz.*, what were all the causes which enabled our subject to reduce his reaction-time from 18 to 10 hundredths of a second, it simply shows lack of intelligence to ignore the psychological or subjective side of the problem.

From this side science, and indeed apperceptive as distinct from associative thought in general, may be described as the power of correlating and intensifying certain impressions by dichotomising and crowding off irrelevancies. Yet if certain large tracts of thought are sunk in forgetfulness or torpid indifference, others are apt to be uncritically over-estimated or morbidly dwelt upon often up to the point of illusion. If the sphere of ideas is unnaturally restricted or morbidly contracted, selfishness and egoism or mono-ideism, often deepening into positive insanity, are liable to result. Certain concentrative kinds of mental alienation—and our age of specialities seems particularly to favour forms of monomania—coexist with permanent or transient species of inhibition of normal motor reactions or various degrees of anaesthesia. The depth of sleep and abstraction may be measured by the

¹ See *Centralblatt für Nervenheilkunde*, 1882, p. 89.

intensity of the sensuous stimulus required to arouse us from them, and when a department of the various stimuli which, as they crowd in along all the sensory nerves, keep the various psychic elements awake, ceases to affect consciousness, its equilibrium is disturbed, and illusions are unrepressed. Anxiety in "labile" dispositions is apt to sharpen into localised pain. If we concentrate attention upon an image at the centre of the field of vision, its peripheral tracts seem to grow dark, as indeed does the centre itself with some observers, when the attention is fixed on a point in indirect vision. When A. B. was directed from the work of reaction to another entirely different subject by the operator, flushing, palpitation, and powerful psychic excitement were caused; he must always be roused into the normal state and again hypnotised before impressions of a new genus were given, as indeed was generally the practice with the exhibitor whom he attended, while within the limits of that genus great mobility of attention was common. All these facts and more or less current conceptions are in the general line of the hypothesis of a tonic cramp of the attention. So, too, are common curative and prophylactic measures, *e.g.*, preoccupation, interest and exercise for the idle, the same and music for the insane, rubbing a sore spot on the skin to dissipate the painful irritation, blowing in the face or a sharp tap upon a part of the body not concerned in the action, as a means of rousing from the hypnotic state, &c. Possibly, too, the case of another hypnotic subject who was able to bring down his reaction to 27 hundredths of a second in the normal, and only to 54 in the abnormal state, may be accounted for by assuming that the work of reacting could not with him be brought out of the negative field into the focus of attention. Five abnormal reactions of this second subject were excluded because delayed over an entire second. The attention of this subject appeared to be too concentrated on the person of the hypnotiser to fully comprehend the action desired.

But while the attention-theory has much explanatory power, and may enable us to regard many abnormalities and neural disorders as only exaggerations of states familiar to every normal mind, and while it enhances our conception of the power of the mind over the body, it is time to remember that there is yet much obscurity and confusion and great inadequacy about it. Shall we say that the hypnotised animals of Kircher, Czermak, and Preyer were suffering not from fear but from an abnormal concentration of attention in which animals have been thought to be deficient? Do hibernating animals

and the fakirs, who present phenomena which Braid and others since have regarded as belonging to the same category, simply hypnotise themselves, and do the East Indian ecstasies, and even hibernating animals, fixate their navel in passing into trance only because it is at a convenient distance for easy accommodation, and because they have not one of Heidenhain's buttons at hand? In cataleptic states, as has been lately shown by Rieger,¹ contractile energy is more evenly distributed between flexor and extensor muscles than in ordinary motion, antagonistic muscles being stimulated at the same time. Again, how shall we explain the imitative diseases which Hecker has described as psychic pests, and which present so many elements in common with hypnotism? It has been said that not only another's yawn, but even opening a pair of tongs will cause yawning, while if we bethink ourselves this stimulus is ineffective. When the hypnotic subject pronounces long foreign sentences correctly after his controller, &c., is the attention turned on, or is the action purely automatic and unconscious; and does hypnotic colour-blindness fall within the positive or negative field of attention? When, *e.g.*, a hand is made insensitive to pain, is it due to abnormally intense inhibition of sensation or motion by consciousness, or is it better conceived as an entire detachment and vagrancy of attention from consciousness, of which it is commonly conceived only as a concentration. Does life cultivate the mind only in spots or nodes, and are these so imperfectly bound together by associative and apperceptive processes that special stress upon one of them causes it to isolate itself still more till the power of self-direction is lost, and devolution and disintegration slowly supervene? Ablation of the cerebral hemispheres, as is well known, makes some animals hypersensitive reflex machines, as are some hypnotics, but surely this must destroy any rudimentary power of attention the animal may possess. Consciousness seems to be of many degrees, and total unconsciousness in men is probably rare even in syncope, coma, &c., and can of course never be proven—a matter of much importance for forensic medicine; and when our hypnotic subjects forget their names and cannot be made to recognise the presence of wife or husband, shall we assume without further question a concentration of consciousness in some other direction? Inhibition is often active as well as

¹ See "Ueber Hypnotismus" in *Sitzungsberichte der physik-med. Gesellschaft zu Würzburg*, 1882, s. 31; also, "Ueber normale u. kataleptische Bewegung" in *Archiv für Psychiatrie*, xiii., 2, 427.

voluntary, and it is not conceived as merely the negative side of a concentration of psycho-physical energy. What is wanted now is the careful and prolonged *psycho-physical study of individual cases* both of hypnotism proper and of allied states, including even hysteria in its myriad forms. If Attention be an essential factor in these abnormal states, it is evident that they take on as countless forms as it has directions and modes of movement and concentration. But we cannot consider this conception of hypnotism as by any means established as yet. Not only does it as yet fail to explain many facts, but it can hardly be brought to do so without quite radically reconstructing the notion of it familiar to common consciousness, and thus weakening its explanatory power—in some such way as Schopenhauer, Hartmann, Hegel, Fichte, and others, in trying to include the universe under the single categories of Will, Unconsciousness, Reason and Ego respectively, have confused these important conceptions. However it may be in other domains of philosophy, the psychologist who confesses to any one predominant rubric or system is an idolater, in whom abnormal mono-ideism has already begun its negative as well as its positive concentrative mischief.

To the consideration of some of the above problems and difficulties we hope to return later, in the light of studies already in progress. Meanwhile the writer desires to express his obligations to Professor H. P. Bowditch, of the Harvard Medical School, in Boston, for placing the resources of the Physiological Laboratory at his disposal, and for valuable aid and counsel.

G. STANLEY HALL.

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III.—ON SOME FUNDAMENTAL PROBLEMS IN LOGIC.

It is rather depressing to find that in spite of the rapidly increasing number of works on Logic, we are apparently no nearer a satisfactory solution of certain fundamental logical problems than we were some time ago: the proper scope and functions of Logic, its relation to Psychology and Metaphysics, the method of establishing or determining its first principles, and especially the true relation of formal to material reasoning,—all these seem to offer as much debatable ground as they ever did. Hence our most pressing need at present appears to be, not more *Logics*, but a thorough and comprehensive 'Prolegomena Logica' or, as we might prefer to call it, a Philosophy of Logic. Such a work should not only put forward a consistent theory with regard to each of the above topics, but should undertake to analyse, compare, and criticise carefully the various doctrines in regard to them which have already found more or less wide acceptance.

We might think that, without entering upon any such long and difficult task as the above, much good work might yet be done within the commonly recognised sphere of Logic, in the development of details, in the elaboration and extension of subordinate branches of theory; and no doubt it may. What we actually find, however, in most logical treatises, is not this separation of scientific details from philosophical problems, but an intricate and perplexing intermixture of them. Each writer introduces a more or less hasty and fragmentary philosophy of Logic of his own, and makes the rest of his work as closely as possible dependent upon it; problems are discussed within the science and as digressions from the main topics, which would be much more satisfactorily treated as outside it or introductory to it. And such discussions are very partial, for while logicians take up now one and now another of these topics, wherever support for their special theses appears capable of being derived from them, they arbitrarily exclude others which seem to be no less important to clear and sound logical theory. Professor Jevons, for instance, declines to argue the point whether logical axioms or first principles are primarily laws of thought or laws of things, while he gives us a chapter upon the "Philosophy of Induction," in which he maintains that all inference consists simply in rendering explicit what is

already implicit in thought, and that there is therefore no fundamental difference between Inductive and Deductive reasoning; others, however (see, *e.g.*, Mr. Keynes, *MIND* XIII., 120), would make the fact that the principles of Formal Logic are necessities of thought, its distinctive characteristic, and that which must for ever divide it from the Logic of Induction. Again, in the development of the symbolic instruments of thought, Jevons dispenses with a discussion of the relation in which language, or symbolism generally, stands to thought itself; while according to the view put forward by Mr. Keynes in *MIND* XV., 362, "On the Position of Formal Logic," this appears to be a matter of prime importance. By all this and by much besides which will readily suggest itself, the great need of such a *Prolegomena Logica* as that described above, is evidenced. We shall never see our way through these puzzling problems until we have before us a careful and comprehensive philosophical exposition of them; and in order to this the groundwork of Logic must be made a matter of distinct and critical investigation. It must not be hurriedly and partially dealt with merely in order to prepare the way for some special treatment of this or that special department of logical science; the aim should be to render plain the ultimate bases upon which the various theories already put forward, rest, and to effect if possible some reconciliation between them: we would fain believe that a deeper analysis of the facts would bring into good working harmony theories which now seem only to stand in each other's way.

In the meantime, however, while we are waiting for some great light to rise and shine upon us in a Philosophy of Logic, we are compelled from time to time to deal ourselves in a fragmentary way with certain of the problems which properly belong to this Philosophy, and which indeed cannot be satisfactorily treated in isolation. Although in this way we may make some progress, each attempted solution of a difficulty must lose greatly both in clearness and certainty by the fact that its fitting with the whole, of which it is but a part, is not apparent.

It is with such an explanation and proviso only, that I venture to call attention in the following pages to certain questions affecting the relative position and value of the Inductive and Deductive logical processes. These questions are (*a*) What are the essential characteristics of all fundamental criteria of inferred truth? (*b*) What is the logical value of the common distinction of Laws of Thought and Laws of Things? (*c*) What, in the last resort, are we to

understand by the terms Synthetical and Analytical Reasoning?

In both Deductive and Inductive logical processes we are chiefly concerned with the *general*: general propositions are usually put forward as the basis of the one, and as the goal of the other; and hence Mill has warmly maintained that the attainment of the Inductive goal ought to be regarded as the indispensable condition of the existence and value of the Deductive arguments. So we will first examine the basis of that method of inference which is thus presented to us as logically prior. We will ask, what is the fundamental criterion of the truth of our inference when we arrive inductively at a general proposition?

In the replies commonly given to this query there is some confusion: now, it is answered vaguely, the Uniformity of Nature; now, more precisely, the Law of Causation; and again, Particular Experiences; while in regard to all, appeal is made equally to the authority of Mill's *Logic*. Now although Mill's treatment of the principles of Induction is somewhat confusing, he has himself pointed out that the Law of Causation, being a general proposition, requires like all other general propositions inductive proof, and he throws us back for this proof upon Simple Enumeration. I conclude therefore that there is to be found in Mill, final justification only for the view of those, who hold that all the evidence we can have for our material inferences, lies at bottom in particular experience. Although in appearance Inductive logicians may be standing fast upon some general principle or axiom, yet when pressed in regard to the value of this, they invariably fall back upon particular intuitions merely, as their real ultimatum. Let us ask then, whether we can be justified in regarding a general proposition as being *proved* by particulars alone.

That particular experience may suggest a law, or account psychologically for the belief of it, we may allow; but this is quite a different thing to allowing that in any usual or consistent sense of the term, it *proves* the law. When we talk of the proof of a proposition we do not mean merely anything which disposes the mind to accept it, for this an emotional bias might do. We mean something more. When one thing is proved by another, its truth is held to be involved in or dependent upon the truth of that other. Now Material Inference, by the school we are at present considering, is acknowledged to be a synthetic process: in it we are said to proceed from knowledge of one thing to knowledge of another, *by reason of, or on the ground of, the first knowledge.*

This latter clause serves to distinguish the process from a synthesis of mere imagination,—an arbitrary addition of thought to thought; and the main practical function of the Logic of Induction is just to enable us to draw the line firmly and clearly between these two. But if the existence of one thing is regarded as a ground or condition of the existence of another, it is implied that some fixed definite relation obtains between them,—that some accredited law of the things has become a basis of *conscious* inference in regard to them. That A is B, here and now, is, however, a judgment fundamentally disparate from the judgment, that this A, or some other A, will be B the next time we meet with it, or always. The one is an analysis of a particular intuition; the other is a synthetic judgment with regard to what is extra-intuitional; it is a proceeding from the known in the sense of what is intuitively apprehended, to that which is unknown;—we find a particular fact and we conceive a general law. And all attempts to make these particular facts do duty for general laws appear to proceed on that most fatal and yet most alluring of all conceptions, that analysis can be made to do the work of synthesis.

A way out of the difficulty which presents itself to some,—to Professor Jevons for instance,—lies in maintaining that, although particular facts do not and never can prove general laws in the sense of rendering them absolutely certain, yet that they may render them more or less probable, and that this suffices for our purpose. What however is the meaning of this “rendering more or less probable”? Either it must mean, I think, that particular experiences can prove proportional propositions, though not universal ones; or else it must refer merely to the psychological fact that we are *disposed*, though not obliged, to expect repetition of a frequently observed order of phenomena. The first interpretation is open to all the objections which have already been urged against the power of particulars to prove universals, for proportional propositions are only a species of universals; the second is a reference to psychological facts for confirmation of logical principles,—a procedure which, having regard to its frequency, we must here carefully consider.

When Formal Logicians appeal to Psychology they call to their aid *necessities of thought*, but Material Logicians usually lay hold only upon *tendencies of judgment*, *force of association*, and so on. In support of the principle of Uniformity we have the fact brought forward, that after long continued observation of a certain order of phenomena we do

actually expect its recurrence, whether we can conceive the subversion of the order or not. This fact that beliefs have been generated by experience is one of the most important in Psychology; and it is there generalised into a law of mind, just as in the physical sciences observed relations between phenomena are generalised into laws of those phenomena. But to substitute this law of mind for the principle of Uniformity of Nature would evidently be only to substitute one generalisation for another: or if, neglecting the generalisation, we regard only the particular psychological facts from which it was drawn, we are then merely substituting an appeal to particular internal intuitions for an appeal to external: and neither procedure can help us at all; both are but repetitions of the old methods under a new guise. And we may further ask, what claim has any mental law to be regarded as in any sense a ground for acceptance of a law of things? For according to the Empirical School, the permanence of the mental order is dependent upon the permanence of the physical order; hence to argue from the observed constancy of the one to the universality of the other, is to argue in a circle.

There remains however yet another alternative: suppose that after all, although to the great distress of most Material Logicians and to the exceeding joy of most Formalists, it turns out that the principles of Induction are necessary judgments,—that they are general intuitions; can we not then find in a law of thought that proof of a law of things which we need? The doctrine that the principles of Induction are necessary has already been maintained by G. H. Lewes, Mansel, and others; and have we not here an easy way out of our difficulties? We can proceed to test laws of nature not by an appeal to mere laws of association, but by an appeal to necessities of thought. We can prove the general proposition, All A is B (here, let us say, = All events have a cause), by pointing out simply that in this or that attempt to conceive an A which is not B, we do not succeed. That A is B, we then argue, is a law of mind, and being a law of mind it must also be a law of things, at least so far as we human beings are concerned. Now there are two assumptions in this argument. The first is similar to that which we have already criticised in regard to inferences from association: it is, that the observed inability to connect A and not-B establishes a *law*, not of things,—as it happens—but of thought; we believe, on the strength of our particular observations, that there is a fixed relation in thought between A and B such that not only we but all men always will find

themselves unable to subvert it; and this judgment is an inference and a generalisation exactly similar to those to escape from which we rush to it. The second assumption (one which is indeed involved in the first) is, that no divergence shall ever arise between what we experience and what we feel ourselves compelled to think or judge,—that intuition shall never be contradictory of necessary inference. To some this may scarcely appear to be an assumption; yet others have argued that we often believe the inconceivable, and that things at one time inconceivable may become conceivable by the repeated effects upon the mind of new experiences; and such experiences must at least *begin* by being contradictory to a so-called necessary conception. Mill thought (rightly or wrongly), that if we were transferred to a world, where upon the addition of two objects to two objects we invariably received the visual and tactual impressions of five objects, we should come to conceive $2 + 2 = 5$ just as easily and even necessarily as $2 + 2 = 4$. This may of course be debated, but I doubt whether it can upon Mill's own premisses; and most of those who take a contrary view to Mill, and hold that necessary judgments are necessary for ever, should in consistency look upon mind as constitutive of the objective world after Kantian fashion, and not upon the world as formative of mind after the Spencerian. And surely we are not to be dragged into the depths of Transcendentalism, before we can fix upon a criterion of truth, in the every-day sense of the term.

Hence we arrive at the conclusion, that we can no more prove our criteria of material inference by an appeal to *necessities of thought*, than we can prove them by an appeal to *tendencies of thought*: in both cases we are attempting to prove a law of nature indirectly by an appeal to certain particular internal intuitions, having failed to prove it directly by an appeal to those particular external intuitions to which it primarily relates; and the only result seems to be, that we thereby disguise from ourselves the fact that we cannot prove it at all. These principles of Induction must be general synthetic propositions, and since these are not reducible to or provable by particular experiences of any kind, they must stand on their own strength altogether; we must say of them simply that they are ultimate beliefs: if people find belief of them necessary, well and good: but if not, we must beg them as postulates: and it will be part of the task of the philosophical logician, so to elucidate and formulate his principles, that the granting of them will be as far as possible unhesi-

tating. Doubtless he will not be altogether indifferent to this question of necessity, though its interest for him will be different from that which is generally supposed. Since that which people necessarily conceive they are very ready to believe, the logician will be saved a great deal of trouble if he can succeed in exhibiting his first principles as necessary beliefs; but his attempt to do so must not be confused with an attempt to prove them. The theory of Evolution might lead one to anticipate little opposition on the part of the Empirical School of thinkers to a representation of the principles of Induction as necessary. The constancy of certain relationships among phenomena may produce, they hold, an inability to conceive them as otherwise related; and those followers of Mr. H. Spencer who allow necessity to the judgment that two straight lines cannot enclose a space, need not feel much put out if required to concede the same in regard to the Law of Causation. In any case, it would seem that, as logicians, the question of necessity or non-necessity need not vitally affect them. Mill, however, was troubled, we know, by the idea that if the existence of general intuitions were admitted, his Logic of Induction would be at an end; and there are others now-a-days who share his terror. Let us examine the true cause of it.

When it is pointed out that Formal inferences depend upon Laws of Thought, and Material inferences upon Laws of Things, the fact to which at bottom attention is called, is, that the principles of the one are necessary, while those of the other are not: and it appears that if ever this distinction is set aside, the one great and sufficient barrier between the Logic of Induction and the Logic of Deduction will be broken down, and the former become swallowed up in the latter. If the criteria of inductive inference are necessities of thought, they will be accepted as soon as propounded, and afford no scope for debate or explanation: while the subsequent logical process seems to consist entirely in deduction from them as major premisses. Hence the office of the Inductive Logician would no sooner have begun than it would cease to be; he would have to propound his principles simply, and then take himself off the ground. But we may ask him critically whether after all the case is much mended, supposing we allow him in regard to his first principles even all that he has hitherto claimed. For is it not true that, according to the common theory, the very first inductive effort,—the establishment of a comprehensive law of nature,—is in strictness the beginning and the end of all that it is appropriate to the purely Inductive Logician to do? As soon as Mill has obtained, as a

criterion, the Law of Causation, it is plausibly argued that all the subsequent development of his so-called *Inductive Methods* (except in so far as they are methods of observation and discovery) is a purely formal and deductive task. And whatever be our principle or criterion, the same may be said; the very fact of its generality seems to put an end to any but a syllogistic use of it. It is the dread of this speedy consummation which has already led Inductive Logicians to try to palliate or in some way to detract from the universality and dogmatism of their first principles; they almost seem to glory in the fact that they do not quite believe them. Ingress into the deductive sphere, however, cannot be avoided by any mere casting of doubt upon principles; if we mean to use these as criteria, we must state them in a general form and reason from them as major premisses; and any surmise we may cherish as to the possibility that after all our conclusion may not be sound, is nothing to the point. Even if we refuse to state our principles as universal propositions, and prefer a particular major, our reasoning from it is still deductive in form. In representing Induction as Inverse Probability, Jevons aims at supplying us with particular or proportional propositions for our starting-point instead of with universal ones, but he does not thereby prevent,—nor does he apparently intend to prevent,—the subsequent process of inference from being essentially formal and deductive.

We now face the question, wherein after all does the distinction, which at first seems so marked, between Induction and Deduction lie? Does it lie in the fact that the principles of the one are analytic, and those of the other synthetic judgments? Or is it not possible that both may be synthetic? That the axiom of syllogism is synthetic, is a doctrine not altogether unheard of: Prof. Bain maintains that it is a law of things and an inductive generalisation, presenting no essential differences to other fundamental inductions; and Mr. H. Spencer's account of the ratiocinative process would lead us to a similar view. Most Formal Logicians, however, assume it to be analytic; yet their general language in regard to the function and value of syllogism,—their view that by its means we attain positively new judgments,—may well raise doubts in our minds as to their true meaning. They add, indeed, that it deals only with the necessary relationships of ideas, and aims only at introducing consistency among ideas; yet they certainly do not mean to say that the relationships are such as have no counterpart in nature; they may be laws of mind, but they are not the less laws of things also. Still, it is argued, the newness of

the judgments which form the conclusions of formal reasonings, consists only in the fact, that in them is rendered explicit that which was before implicit. Now what does this phrase, "*rendering explicit what was before implicit*," really mean? Perhaps we shall find that it is accountable for much logical darkness.

The word "implicit" may here bear two interpretations, which are unfortunately apt to be confounded. It may mean either implicit in language, or implicit in thought: "implicitness in language" means that the knowledge is possessed in a symbolic form merely, and waits to be interpreted into actual thought; and this is scarcely the meaning which Formal Logicians are willing to accept: "implicitness in thought," however, seems to mean that a certain judgment concerning a given subject, though not actually made, was a necessary one. But this to some may appear paradoxical. Wherein, it may be asked, lies the necessity of the conclusion, if, being in possession of the premisses, we have not actually made it? It has been argued by some, that apart from symbolism all Logic must cease or sink into Psychology, if the inferences it deals with be declared necessary; for all that then remains to be done, it may be said, is to describe the way in which we *do* reason, and not the way in which we *ought* to reason. But this cannot be decided off-hand; Kant held that there might be necessary judgments which yet were not necessarily made; all seems to depend upon whether the judgments are analytic or synthetic. If in regard to given phenomena A and B the necessary judgment be synthetic, we may argue that, although when these are presented together and reflected upon, it may be found inconceivable that they should not be related after a certain manner, it may yet be quite possible to think of either alone without any reference to the other; and when B and its relation to A are out of mind, we may form judgments concerning A which will be inconsistent with that relationship, and hence require a memorandum of it to which we must constantly refer. Such memoranda of the most important and universal relationships of phenomena may appear to be exactly what all logical axioms supply, and their use will be to guide us in the making of inferences which, after all, may justly be described as necessary. To say, however, in such a case as the above, that in relating B to A we had only rendered explicit what was before implicit, would be very misleading. The implicitness here could only refer to the *possibility* of our becoming aware of the necessity of the given relationship. In bringing any valid synthetic

principle to bear upon a subject, we are adding to our knowledge of that subject; and if the subject be a matter-of-fact, the principle is to be regarded as a law of nature. So if it be maintained that the axiom of syllogism is synthetic, like those mathematical axioms to which it is so often compared, it does not appear that the movement of thought in syllogising can differ in any essential respect from the movement which is supposed to take place in material reasonings. Why, we might well ask, should the principles, "All events have a cause," and "All things co-existing with the same thing (or same part of a thing) co-exist with each other," be logically distinguished? What is the force of saying that the one enables us to attain new knowledge, while the other only enables us to arrive at new judgments? Apparently there is none. Nor can we make use (under the present hypothesis) of the old distinction of Matter and Form; for Form would now mean simply some universal relationship of things; and in this sense the Law of Causation might be said to relate to Form quite as much as the axiom of syllogism. So we have apparently only saved the doctrine of the necessity of the inference in syllogism, together with its implicitness, at the cost of fusing completely the Logics of Induction and Deduction. This result however is hard to accept; we are vaguely aware of some great gulf between the two Logics, and fortunately we are not obliged to give up our case until we have considered closely the remaining alternative, namely, that the necessity of inference in syllogism is not a necessity of synthesis but of analysis. We begin by asking, what under this supposition will be the force of the phrase "implicit" as applied to the knowledge obtainable from the premisses of a syllogism? Now we have seen that we can without inconsistency talk of a necessary synthesis which yet fails to be made; but how can we possibly talk of a necessary analysis which yet does not always take place in thought? The "newness of judgment" which results from syllogising, is generally said to consist in thinking together attributes which we had not before thought together. But if we had not before thought them together, how is our judgment analytical of previous thought? All analysis presupposes a corresponding synthesis, but here we are not supposed to find any previous synthesis which corresponds to our final analytical conclusion. And if we do find it, would it not appear, that apart from symbolic thought the drawing of the conclusion of a syllogism is mere idle tautology,—not the rendering explicit what was before implicit, but the repetition of a part of knowledge which was

before quite as explicit as it is now? If this be so, there is then no movement whatever of thought except in the retrograde sense of dropping out or neglecting some parts of our knowledge and retaining others. We seem to find here another instance of that confusion of analysis and synthesis which is for ever besetting human thought; judgments are spoken of as analytic, while yet at the same time they are regarded as making some contribution to thought. But Professor Caird seems rightly to maintain that the purely formal judgment is no judgment; it is mere tautology. We gain nothing whatever either for truth or for thought by saying $A = A$; and neither do we by saying AB is B , so long as we do not allow ourselves to pass to any B which possibly is not A . This judgment, however, AB is B , expresses, I think, the whole of the truth that is syllogistically obtained. To show this let us take as an example the old syllogism:—Men are mortal; Socrates is a man; \therefore Socrates is mortal. Complex conceptions are formed by the combination of two or more attributes, and any predicate which is universally affirmed of a subject may, if we like, be added to those which form its definition; and the affirmation of any predicate is in fact always a momentary introduction of it into the notion of the subject. Having realised the full meaning of the proposition, All men are mortal, our notion of man becomes—if we represent rational and animal by a and b , and mortal by c — abc ; we have then only to add similarly this predicate $abc = \text{man}$, to the subject Socrates, x , and our conception of Socrates is then $xabc$: the further process of drawing the usual syllogistic conclusion, x is c , completely parallels that in which we judge AB is B , or, Men are animals. This conclusion is a mere repetition of a part of that which has been already thought; it is no new judgment so long as the content of the two premisses is kept clearly in mind, and not merely symbolically recorded. If we think the whole $xabc$, we think at the same time, in the very same act, each of the components as related to each other as parts of one whole; and it is only to this relation in regard to two of them that we call attention in the conclusion of the syllogism. We are not of course obliged to keep the whole of our knowledge in regard to any subject always in mind, and to prevent overburdening ourselves we may drop out a part of it, and think xc instead of xbc ; but in thinking xbc in the premisses we have actually, that is *explicitly*, thought this conclusion xc . And I scarcely think that in a syllogism we generally do in thought drop out the middle term; the conclusion we carry away with us is rather,

Socrates—a man—mortal, than Socrates—mortal. In any case the fact of our not retaining all the knowledge we have got can scarcely be put forward as a ground for treating the part which is retained as a new judgment.

According to this, so far as thought itself is concerned, we need no axiom of syllogism at all; mediate inference becomes indistinguishable from immediate as regards the formal process. This indeed would seem to be implied by those who ground syllogistic inference ultimately upon the so-called Laws of Thought, All A is A, &c.; but according to the foregoing, these Laws are not really laws of thought at all; they are mere tautologies,—formal judgments, which as Prof. Caird says, are *no judgments*. So, in regarding the process in syllogism as analytic, we seem at the same time to be forced to regard it as idle. In apparent conflict with all this, however, we have the fact that in syllogising we do in some way make progress in knowledge, and very important progress too. The solution we would offer to this difficulty is, that the process in which the progress lies is prior to and independent of all the said formal principles. If both major and minor are synthetic judgments an advance is made in forming each separately, while there is a further advance in thinking them in conjunction. It is this latter point which I think has served to give the principle of syllogism an air of synthetic value. We know that we may go on indefinitely judging man to be mortal at one time and Socrates to be man at another, and yet never be aware that Socrates is mortal, because when we are thinking of Socrates's humanity, we have dropped out of memory the connexion of humanity and mortality; in order to get the whole, Socrates—man—mortal, of course all the elements which go to make that whole must be simultaneously presented. The recollecting however, at a suitable juncture, knowledge stowed away in memory, is a process with which no formal principle has anything to do; we can only say of it that it is an accident which happens more frequently to the intelligent. In getting the premisses of a syllogism we may say perhaps that implicit knowledge often becomes explicit, but this implicitness is only latency in memory. That however the entire value of Formal Logic consists in its pointing out to us certain methods of manipulating symbols by which deficiencies of memory and of mental grasp may be to a great extent overcome, is the conclusion which I hope we may now reach.

Suppose we are looking at some object and become aware,—it may only be by degrees,—that it is of a certain form, design, colour, &c.; our notion of it has then come to be that of a

certain tolerably definite cluster of attributes, and the larger and more definite the cluster, the more extended is our knowledge of it. Now what we do in syllogising is to cluster similarly attributes round a given subject; but the addition of them here takes place generally through an effort of memory or imagination, and not through an effort of observation. We may argue that as we do not, in perceiving the conjunction of attributes ABC, think we require a fresh observation or any reference to the axiom of syllogism in order to become aware that AB or BA, CA or AC, BC or CB, are conjoined, so neither should we hold that these constitute fresh judgments, when, the feats of memory being completed, we have before us the group ABC in mental presentation.

But the number of attributes we are able to predicate of any individual may be indefinitely numerous, and we cannot possibly introduce them all at once into our notion of the thing. And here it is that language, or symbols as systematised and employed according to rules given in Formal Logic, come to our aid. In a Sorites we may have forgotten every link of the chain but the last by the time we arrive at the conclusion; each link, however, is preserved for us in symbols; we have before us,—on paper it may be,—the collection *abcdefg*, &c., a whole of which each letter is a part, and we can then confine our attention to any two parts and interpreting them in thought, bear away with us the knowledge of their mutual relation. The importance of language in giving, in this and in similar ways, increased scope, facility, and system to thought can scarcely be exaggerated. But what it does for thought is what in a small way a calculating machine may do for the mathematician: the rules for working the machine are not mathematical axioms, and neither ought the rules for manipulating logical symbols to be regarded as expressive of fundamental laws of thought, though their relation to those laws may be very profitably explained. The Dictum or any other axiom of syllogism has value when regarded as a precept for the conduct of symbolic thinking only; but as such it may enable us to arrive at new judgments,—judgments which, moreover, we might never have been able to make without it. By manipulating symbols in a manner which duly represents the movements of real thought and preserves their results, we may, without thinking, arrive at conclusions which are exactly those which real thought would have yielded, but which nevertheless far transcend anything which thought unaided by symbols would ever have accomplished. Looked at in this way, Formal

Logic *may* be said to enable us to extend our knowledge of things, but this is not because it enables us to analyse our knowledge, but because it aids us in the performance of complicated syntheses: it shows us how to carry on by means of symbols a synthesis of syntheses to which thought unaided would have been inadequate. We have said that the so-called Laws of Thought were not properly speaking laws of thought at all; if we are to give them any psychological reference, we must say of them only that they are attempts at a description or explanation of intuition; to give them out as principles to which thought must conform, is to say that we must not intuit that which we do not intuit, or refrain from intuiting that which we do,—which is surely empty and absurd: taken as relating to thought-symbolism, however, they may serve as negative precepts regarding the employment of symbols; they may check us in making combinations of symbols which could not be interpreted into actual thought. An analytic *judgment* is, as we have said, no judgment at all, but an analytic *proposition* may be of use in calling attention to and preserving clearly in symbolic representation that which belongs to the correspondent thought. Thought itself is altogether synthetic; hence our logical first principles or criteria of inferred truth are all synthetic judgments. The sole aim of all logical methods and processes,—whether they be called material or formal, is to enable us to make sound new syntheses, and extend our knowledge of things. Formal Logic treated simply as an exposition of the methods of assisting thought-processes generally by symbolism, may fitly be regarded as a very important although completely dependent branch of General Synthetic Logic. This General Logic will comprehend all methods which can be *generally* applied for the bringing of new judgments to the test of fundamental principles,—or for the formation of such judgments as will evidently fall under the given principles. Supposing one of these principles to be Causation,—and be it remarked, we need not consider ourselves limited to one,—then all Mill's Inductive Methods, which have been accused of being deductive and formal, fall rightly within the scope of Synthetic Logic; they point out to us the best means of practically bringing new judgments into relation with a certain fundamental principle of synthesis. Similarly, if we start with any other synthetic principle,—say, for instance, with the third of Kant's Analogies of Experience,—it will belong to Logic to develop the general methods of applying it.

It might be well in conclusion to show what in accordance

with the foregoing must be the philosophical outcome of a logical treatment which, failing to distinguish clearly real thought from symbolic, ends by identifying all Logic with what has been called Formal Logic, and gives as fundamental principles of judgment precepts for the manipulation of its symbolic instruments; but the task would be too long to enter upon here. Those who agree with the above however, will readily concede that if, with Professor Jevons, we hold that all inference consists in rendering explicit that which was before implicit, and that the fundamental logical principle is that similars may be substituted for each other, then all thought becomes reducible to tautology or to mere verbal transformations.

In conclusion it may be well to sum up the chief points of argument.

(1) That all Logic is concerned with the development of general methods for the application of the criteria of inferred truth.

(2) That these criteria are general synthetic judgments, accepted in Logic as axiomatic or ultimate, and expressive of laws of things.

(3) That the fact of the necessity or non-necessity of these judgments is not one upon which the common distinction of Inductive or Material and Deductive or Formal Logic can be made to depend.

(4) That Formal Logic (so-called) is entirely concerned with the development of the symbolic instruments of thought, and that logical analysis taken in connexion with thought itself is unmeaning or idle.

(5) That, as a consequence, Formal Logic (more properly Symbolic Logic) is completely subordinate to Material: that Material Logic deals with all general methods of obtaining valid synthetic judgments; and that the sole function of Symbolic Logic is to provide an instrument which will aid thought in the accomplishment of extensive and complicated syntheses.

M. MARTIN.

IV.—“NATURAL RELIGION.”¹

It would be useless and impertinent to occupy space with any detailed account of a work which every possible reader of this paper must have read; and almost equally so to lavish praise on the spirit of peace and progress in which it is conceived, and on the well-known style, at once so weighty and so brilliant, in which it is executed. Its author's object is briefly this: putting “supernaturalism” and dogma on one side, to show that the “natural” Universe of facts and feelings supplies, in actual existence and operation, diverse elements of religion, which only need to be generally recognised for what they are, and to be consciously united, to make up a Religion—something fully worthy of that name, though in relation to the individual it might also be called Culture, and in relation to the world Civilisation. In dispersion, these diverse elements are comparatively weak; they are misunderstood, often held to be opposed to religion, and even mischievously discordant among themselves; one set of men neglects one of them and another another. Like the sticks of a faggot, they will find their true strength in union; and the possibility of their union is that they do, as a matter of fact, appeal to a common instinct and excite a common feeling, that of devoted self-forgetting admiration. This feeling, which is no other than worship, is specifically religious; and when it has found its true and complete Object, it will be a single Religion, embodied in a single universal church, “a great commanding union of hearts and minds,” the invigorating influence of which will be felt in every department of life.

There can, of course, be no doubt as to what the elements must be. The same threefold division of the higher life has commended itself even to those who differ completely in their point of view with regard to it. With Plotinus, the three constituents are roads for attaining that elevation of mind in which the Infinite may be apprehended, and which “I myself,” he says, “have realised but three times as yet, and Porphyry hitherto not once”: they are that “devotion to the One,” to the ordered unity of things, which is the mark of the natural philosopher; the love and moral purity of devout and ardent souls; and “the love of beauty which exalts the poet”. With Goethe, they are the elements of

¹ *Natural Religion*. By the Author of *Ecce Homo*. London: Macmillan, 1882. Pp. viii., 262.

Culture; which he sums up as "Life in the Whole, in the Good, in the Beautiful". With our author, as we have seen, they are the sufficient elements of Religion; not, as in the idea of Plotinus, mere paths to an unknown god, but actual present possession and worship; and he discriminates them as concerned with the eternal laws of the Universe, with Humanity, and with Beauty, or more briefly as Science, Morality, and Art.

The argument by which this view is supported is naturally aggressive as well as constructive; and on the aggressive side it seems unanswerable. Parts of the same lesson have been taught in different, though not less impressive ways, by Mr. Matthew Arnold, Mr. Ruskin, and the Positivist writers; but it is here re-enforced with all the weight of the author's individuality. We can have nothing but admiring assent for his exposure of the pettiness and vulgarity of what he calls the lower life; and of the incapacity of the existing dogmatic religions to meet the needs of the higher life, by supplying a synthesis which may embrace all its elements in one "great atmosphere of thought and feeling". Nor can we differ as to the importance, for human welfare, of Science, Morality, and Art,—of a wider knowledge of Natural Laws, a wider love of Humanity, and a wider appreciation of Beauty. Our doubts begin when we turn to the positive additions which the present view of Natural Religion has made to the previous enlightened conceptions on these subjects.

And to glance first at the elements separately: the book gives the impression that its author has been habitually in very much closer contact with Morality, especially as studied in relation to history and politics, than with Science and Art. His picture of the scientific man, perpetually wrapt in contemplation of Law and Unity, is a very common ideal with those who appreciate the vastness of the leading scientific conceptions, and whose imaginations are impressed by the miraculous command of space and time which modern discovery has brought, but who have never been lost in the wilderness of laborious detail through which almost every investigation has to pass. The sunlit peaks are often better seen from a distance than from the myriad rough and tortuous paths by which they are actually scaled. And in a vast amount of scientific work, which is concerned with facts, there is much that is positively alien to the contemplation of laws; for the relation of facts to laws is perpetually not only obscure, but of a kind which could not possibly come within the purview of Science. Things simply *are* thus and thus, in behaviour or topography; the manner of their

having become so has been, of course, in every stage a natural process, as is the gradual accumulation of particular grains of sand in one particular heap; but to our eyes the greater part of natural process must be a myriad-fold accident, which might have given quite different results without any apparent violation of law. Even so large and interesting a law as that of natural selection everywhere presupposes individual variations which, for us, are strictly accidental. And as the course of differentiation is followed, and the attention narrowed down from the dominating laws of a multitude of species, which are constant under a multitude of conditions, to the uniformities prevailing among smaller and smaller groups, the facts which, for aught we can see, *need not* have been as they are, occupy more and more of the ground, and seem often as remote from deduction, and from any vitalising conception of law, as the streets and squares of a city which a cabman has to master. Even in the simpler region of inorganic matter, each of the most familiar chemical compounds has qualities which cannot be accounted for, which could not have been prophesied, and which can only be registered; and this would remain equally the case, if the wildest dreams of the mechanical theory were realised. But even apart from this, and supposing the peaks to be always more or less in view, can their effect upon us be reckoned on as an unchanging quantity? The conceptions which really open up new fields in the physical universe, such as the atomic theory, the correlation of forces, evolution—conceptions which have a very different effect on the imagination from the gradual filling up of these territories with subordinate laws and facts—are necessarily few and far between; and in their merely scientific aspect the mind adapts itself to them with really terrible ease; so that even the last and greatest of them will probably be not much more exciting to our grandchildren than gravitation. And the very search for larger and larger and more and more uniting conceptions, which has an exciting character of its own, is in some degree opposed to the excitement of novelty: to find anything in the future as exciting as the correlation of forces, we should have to find some force which could not be correlated; which in the interests of unity would scarcely be desirable. Supposing that the "vast unity," which our author himself admits to be "not yet discoverable or nameable," is really the God whom we seek to know, and supposing it were discovered and named, so that (to take the simplest department only) all known quantitative laws—those of the velocity of falling bodies, of the diffusion of gases, and a thousand

others—could be embraced in a single formula; it seems certain that interest in Nature would then and there begin to decline. The forward path would be closed; search and pursuit would have lost their great incentive; the imagination, set in motion (as our author describes it) by glimmering regularities and suggestive analogies, would find its function gone; and worship of the hugeness of the conception would fade away in an atmosphere of unaspiring familiarity.

Fortunately there seems at present no danger of the various forward paths converging on this paralysing goal; laws, like objects, stand side by side, *e.g.*, those of magnetic currents and those of heredity; and nothing like an all-embracing unity presents itself. But then in ceasing to strain after the idea of such a unity, we cease to find mere regularity so very imposing. How is invariableness of operation in Time a grander idea than mere size or distance in Space? of which latter one of the most imaginative as well as one of the ablest of recent men of science, the late Professor Clifford, declared his unmitigated contempt. He would certainly not have prostrated himself before the geological millenniums and the stellar distances, to which our author oddly points as bringing the greatness of God home to us by the fact of its having been actually computed. And a case like Clifford's would almost alone serve to show that, if there are occasions when these conceptions overpower us with a primitive unreasoning delight in which the utter relativeness of vastness in Space and Time can be forgotten, such experience is something to be just accepted in thankfulness, not to be reproduced at will, or pressed on others in the way of a truth or a duty; for the cold touch of reason may at any moment make it look both illogical and vulgar.

Against such objections our author would perhaps still urge the scientist's actual devotion to his employment. Luckily for us mortals, such devotion, in the sense of an ant-like impulse towards the day's work and a certain solid contentment in it, is far from rare. But ants must not despise one another; and while any busy man may feel for vapid idlers the sort of contempt here specially attributed to students of Nature, it must surely be exaggeration, in these days of specialism and division of labour, to describe the feeling of an average man of science towards an average man of business as "the pity of an apostle for a heathen". Our author scornfully regrets that men who might be scientific discoverers often "end ignominiously in large practice at the bar". It is of course a loss to the world when rare talents are wasted on work which does not demand them;

but that is not now the question. What we are considering is the worker's normal attitude towards the object of his study; and experience, I think, shows that the scientist's devotion to science is not normally devotion to an "infinite Unity" or a "beatific vision"; that in fact it partakes about as little of the nature of worship, and about as much of the nature of interested and healthy activity concentrated on successive limited points, as the intelligent lawyer's devotion to that extremely unscientific and un-unified object, the Common Law of England.

This somewhat unreal treatment of the pursuit and pursuers of scientific studies might more readily pass muster, as the outcome of the author's sanguine and powerful imagination, did it not directly connect itself with deeper flaws in his argument. Thus he perpetually urges on us the comparison of the scientific attitude towards Nature and the old Hebrew attitude towards the Eternal. But must not the religious sense of awe in the Jew have had at least some reference to the conviction, so strikingly and repeatedly expressed, that the ways of its Object were not only higher than his ways, but unsearchable, past finding out—a conviction which would scarcely enliven the occupation of the scientific investigator? Again, a great point is made, in this comparison, of the fact that knowledge of natural laws is the means of securing the maximum of safety and well-being in life, so that scientific men describe knowledge of Nature as of no less paramount importance than Jewish prophets described worship of God. But such knowledge the author himself represents as directed mainly to prevention and circumvention, and as resulting in a "transaction with Nature," a "propitiation" of a blind and inhuman Power, which might crush us but for our cunning and pliability. Surely, then, when one passes on from the special knowledge and the knower's application of it, to his general emotional attitude towards the Power itself, we shall hardly see there any very striking parallelism with the Jew's confident self-abandonment to an initiating, disposing, and protecting Providence. This further topic, however, of the inhuman or antihuman aspect of Nature, will find a more convenient place in the sequel; and from Science we may now pass for a moment to Art.

Here there is less to complain of, as far as the description of the worshipping attitude is concerned. In mere point of quotable authority, the gospel of Beauty has great advantages: Goethe and Schiller, the very word "Hellenism," are far stronger reeds to lean on than any supposed declarations

of scientific agnostics and sceptics "that their pursuit tends to worship". It is indeed beyond question that the habit of enthusiastic admiration is a much more real, natural, and necessary characteristic of artistic than of scientific activity; while for the world at large the difference is even more marked. For, in the first place, a very far larger amount of direct labour is necessary for really intelligent glimpses of the unities of Nature than for true enjoyment of some form of Art; and, in the second place, those persons are exceptional for whom, through a natural bent of mind, the admiring awe, say, in the conservation of energy can fill up and transform as many moments of life as the admiring delight in favourite poems, pictures, or melodies. And this difference will only come out more strongly, if it exists in spite of adverse conditions, and if Art in our day is really handicapped (as our author suggests) by having a less robust set of professors, and so presenting less of "healthy and manly vigour," than its rival, Science. But if the character claimed for Art is tolerably secure on its own ground of Beauty, we cannot but feel a little of the old unreality at the point where it is carried beyond that ground, and made to help out Science in the proof that Nature, with all its faults, can still be worshipped for being awful and One. We are told that, owing to the appearance of this feeling in Art towards the end of the last century, artists *for the first time* "began to feel that their pursuit was no desultory amusement, but an elevating worship". The clear sense of "something priestly and prophetic" in the poetic mission is dated from the age of Goethe and Wordsworth, and has "increased the self-respect of artists ever since". This is a puzzling argument. It cannot surely mean that this sense of a unity in Nature has a more exalting influence than other, and especially than supernatural, conceptions have had and can have, where they did or do exist. "Desultory amusement" would be an odd description of the art of the *Eumenides*, the *Ædipus Coloneus*, and the *Divina Commedia*. Our author has himself expressly shown how in Æschylus and Sophocles "religion and patriotism were undistinguishably blended"; he remarks on the Christian orthodoxy of Michael Angelo, and Dante, and Milton, and how Æschylus and Dante "were greater than the Sceptics"; he draws attention to the fact that, when the fervour of Pagan religion, as such, became impossible in Greece, "the great imaginative poets come no more". One cannot but reflect that on his own theory there was a glorious opportunity for them to reappear in the succeeding century, when the scientific and unifying study of Nature was receiv-

ing from Aristotle the most momentous impulse it has ever known; but let that pass. As applied to our own century, the argument, if it is to do the work required of it without ignoring the inspiration and dignity that poetry may draw from supernatural conceptions, is bound to mean that poets who have definitely turned their backs on those conceptions and so have foregone that special inspiration and dignity, have been rediscovering their inspiration and dignity in the conception of Nature as a vast and single Power. Nothing less than this will serve: for to suppose that, in a poetical mind where those further conceptions exist, they can be kept separate from the view of what Nature would be without them, is futile; and the page in which our author is reduced, by the exigencies of his argument, to eliminate from Wordsworth's view of the Universe the Christian faith which in the same breath is described as having "preserved him from pessimism," is perhaps the only approach to a juggle in his book. But when we look at the poets of exclusively "natural" Nature, does his account at all hold? Is it any awful Unity that they reveal to us? Is it not, on the other hand, in the Pagan qualities of Nature, in her beautiful and sensuous aspects, that Mr. Swinburne and his fellows have sought and found their inspiration? Beyond Goethe, the most companionless of great men, can our author point to a single instance in support of his contention? while even in Goethe, the indifference to the moral principle, to which he himself draws attention, is fatal to the sense of Unity as he describes it.

Further difficulties suggest themselves in respect of the place that Art would hold in our author's ideal community; where "every one would have some object of habitual contemplation, which would make life rich and bright to him, and of which he would think and speak with ardour". As regards pictorial and plastic Art, its relation to the religion of the future seems equally full of doubt, whether the religion be "natural" or "supernatural". For if, on the one hand, it is hard to imagine an appropriate mythology, and therefore a mode of concrete embodiment, for the spiritual elements of such defecated "supernaturalism" as may reject the dogmas and miracles of current religions, we have on the other hand no assurance that the arts of visible representation can enjoy the widest and deepest sort of popular life apart from such elements. And as regards the place of the other art of representation, Poetry, in a community where Morality is as natural and little noticed an element as the air men breathe, there is a deeper and more disturbing question. It may dis-

pense with supernaturalism: can it dispense with evil? How far, judging from experience, may not its scope and sublimity be held to depend on the existence in the world of a large proportion of sin and suffering? Life is to be indefinitely brightened; but can a great and various human literature dispense with shadows as completely as Fra Angelico's pictures of angels? Will *Othellos* be written when Iagos are impossible? Will Satan be an epic hero when he is impotent? Does it not look as if the levelling up of life to conditions where mental and spiritual conflicts will have largely ceased in attainment and contentment, must level down a large proportion of the great poetic heights? So far from the mark of this ideal community being, as our author prophesies, that genius will be "of ordinary occurrence" there, may not imaginative genius lose its pabulum in the absence of contrasts, just as humour would in the absence of incongruities? And may not days of full contentment prove unfavourable to moments of rapture?

To pursue these questions would be here out of place; and I gladly turn to the third department of life—that in which our author shows himself in his full strength—the department of Morality, or Religion on its social and political side. It is here that his strong imaginative grasp of history, and of large aspects of human nature, gets its fair chance; and the defects in his argument, which may invalidate his conclusions as to present and future possibilities, will still leave his work almost unassailable on purely historical ground. What, for instance, can be truer than his glance at the opposite errors of Fatalism and Titanism, at the fate of the men who under-rate and of the men who overrate the effective force of their own wills? How striking is his range of illustration: *e.g.*, where the quality of determination to accept the truth of the Universe, however disagreeable, is exemplified in the attitude respectively assumed towards the lying court-prophets, towards Pharisaism, and towards the secularised Middle-Age Church, by the Hebrew prophets, primitive Christianity, and the Reformers! What reality he gives to the conception of Hebrew prophecy, not only in its continuous grasp of social and political phases, but in its limitations: *e.g.*, its failure to recognise that even a prophet may be something else besides true or false, namely, mistaken; and its denunciation of the worship of natural forms, addressed to a particular nation under particular conditions, and therefore irrelevant to the truly religious element in Greek nature-worship! Even if we demur to the summing up of Jewish history as "the dealings of a certain human group with Necessity," how

impressive remains his picture of the Bible as a whole, as one book, treating of the chequered fates of a nationality which merges at last into a world-religion; as an "Epic of Human Action" with a practical and temporal aim, exhibiting through a history of centuries the fundamental antithesis of inspiration and rules, of living and dead Morality, and leaving it "in the act of revolutionising the world"; but also as a fragment, peculiarly likely to be misunderstood and abused by literal and limited interpretations; so that the attempt of the Puritans "to rise once more to the same general view of human affairs" fails, "because they have no clue to the centuries immediately behind them"! What width and clearness in his views of the formation of theologies and religions: shown, *e.g.*, in his passing description of the older theologies as busying themselves quite as much with laws as with causes, and drawing no sharp line between natural and supernatural events, and of the gradual change of method through which Science assumed the domain of law, and Theology of supposed suspensions of law; and again in his account of the distinction between scientific and imaginative knowledge, and of the unfortunate consequences to Religion of the earlier predominance of the latter; and, above all, in his disentanglement of the two conceptions mixed up in every moral religion—laws, including penalties, and the worship of Man—specially illustrated in the rise of Catholicism, the "marriage between Rome and Jerusalem," and in the "Christian legalism" which was bound to supervene, where "the free morality" had become the religion of races only just ripe for the legal stage! What novelty he can give even to trite themes: *e.g.*, in his notice of the inherent pugnacity and mutually destructive effects of partial religions; and in his admission that Religion, like originality, is apt to be troublesome, and has been at times more mischievous than the cynicism of Secularity, while yet "the life of the soul" is vindicated in the ardour that characterises all religions, not merely true religions! And with what rapid and pregnant touches he brings out order among the crossing and confusing currents of the great stream: *e.g.*, in his brilliantly drawn-out comparison of the higher Paganism, of primitive Christianity, and of Science, to the three stages of childhood, youth, and manhood, and specially his vindication, as against Schiller, of the faults of Christianity as those of youth, not of old age; in his contrast of Paganism as it appeared in its decrepitude in the older civilisations, and in its new birth as a corrective of the Christian and monastic reaction; in his brief sketch of Religion as the great state-

builder, from Moses, through Mohammed, Gregory, the Teutonic reformers, the pilgrim fathers, on to the prophet of Utah; and especially of the primarily national and revolutionary character of Christianity, of its compromise with Rome and the grandeur of Latin Christianity—that Holy Roman Empire which “is to Rome what the Christian Church is to Judaism, the resurrection of a fallen nationality in an idealised shape”—and then of the gradual break-up of the consolidated world-church, and the spasmodic efforts of national states, as in Scotland and even in the France of the Revolution, to preserve the idea of a public religion! How trenchant, again, are the criticisms in which his views of the past are brought to bear on the present: *e.g.*, his exposure of the vague and idle notion that there might be a sort of return to classical Paganism, as though it had been the invasion of a Semitic religion, and not the inevitable course of development, which put the old fascinations to flight; his demonstration of the fortuitous nature of any apparent alliance between the misnamed “atheistic” tendencies of modern Science and the modern spirit of Revolution; his conception of the aspect that our national faults may present, when magnified in the total working of one nation on another, of England on India; his exposure of the want of free adaptation of means to ends in ecclesiastical politics, seen in the fantastic revivals called reformations, made by “those who cannot see the end,” and so “fix their eyes, as the next best thing, on the beginning”; his scorn of the hollow apology for private sects of supernatural religionists in a secular state, that they are a return to the conditions of primitive Christianity,—to the conditions of the Church which “defied and vanquished philosophy,” while “its modern imitation is retiring before it,” and the “private judgment which the apologists appeal to is on all hands rejecting supernaturalism”! How impressive, too, if we can look at the words simply as they would strike us in a book of history, is his description of nationality as a sort of atmosphere round individual members of a nation, which, when any shock makes the individual conscious of it, becomes religion—a thesis characteristically illustrated by the transformation of the Jewish nationality into Judaism by the waters of Babylon, and by the behaviour of the American in Europe, preaching America in season and out of season; and how skilfully he uses the history of great institutions, springing up for the most part in an unreasoning and half-conscious way, and flourishing, without fear of damage from antiquarian researches, so long as they have a visible and palpable use,

to support his conception of a Church, not as a society where membership depends on opinions, but as a social organism into which a man is born, able to be disowned by him only when it refuses to make itself coextensive with culture and civilisation! How convincing, lastly, are the passages where he touches on the absence of any firm conception of the origin, *raison d'être*, and future of the State, and of any such general view of human affairs as Hebrew prophecy in an archaic manner supplied; and where he urges that history can only cease to be a chartless sea, on which men take short aimless voyages or from which they shrink back appalled, by vindicating the interpretation of human society as not only its proper business, but as a prime part of religious teaching!

But this instinct for viewing things historically, which lights up so many portions of the argument, seems in some degree answerable for what I cannot but think a grave weakness in the argument taken as a whole. For after all, the great problem which our author is facing is the problem of the present and the future; he himself emphasises this again and again. Our need, and his, is for a religion which the most civilised men of this generation may recognise as the common essence of views and sentiments hitherto regarded as disparate or antagonistic; in order that, having recognised it, they may promulgate it among their less enlightened fellows. Either there is, or there is not, such a religion, latent or rather dispersed in the actual views and sentiments of existing men. If, as our author holds, there is such a religion, which only needs to be set free and consolidated, it must have certain qualities in relation to the advanced class of minds which are to recognise and propagate it; and the meaning of its principal terms, such as "God" and "worship" and "religion" itself, must be a meaning which these advanced minds, here and now, do or can naturally attach to them. Now that these same terms have borne other and lower meanings in relation to less advanced minds may be most interesting from the point of view of history and development; but unless we are careful to distinguish our historical inquiry into what has been from our examination of what is or can be—to distinguish our survey of past religions from our search after that particular thing which we can hold, here and now, to deserve to be known and preached as Religion—those other meanings which the term has included will be apt to confuse the idea of this new thing which we are to denote by it; even as in Ethics we are familiar with the confusion that results

from mixing up questions about the original elements and historical formation of Conscience with questions about its nature and authority as a present fact. Now in his account of Religion, our author seems unconsciously to take advantage of ambiguities incident to this double way of regarding the subject. Thus he points out that benevolence has not always been thought one of the necessary attributes of God; therefore, he argues, benevolence cannot be regarded as part of the necessary connotation of the name God. Perfectly true; historically, of course, it cannot be so regarded. But this slips on into the conclusion that we, here and now, can worship as God a scientific order of things towards which, according to the author's own admission, our natural feelings may be at their best "fear and cold awe," and at their worst dread and despair—a conclusion which no amount of history can justify, simply because the point is one on which we interrogate, not history, but the minds and hearts of ourselves and our contemporaries.

"But," it may be said, "though benevolence is not an attribute of impersonal Nature, it is an attribute of Man in his moral aspect; and Morality is one of the essential factors of the new 'Natural Religion'." This, however, only brings out the inherent flaw in our author's composite definition of Religion; and the point demands particular attention. It is on regarding the elements of Religion *as a whole*, that he specially insists: this is the distinctive point in his view. "Man," he says, "has still grand spiritual interests, which are all-important to him, and which he partly feels to be so; only to his misfortune he has ceased to think of them together in the whole which they constitute." It is to the breaking up and distribution of its elements "under other names or under no name," that he attributes the attenuation of the meaning of Religion. But things which are confessedly distinct can only be bound into a whole by some principle of union, external or internal. The orthodox view of God or Providence is a real bond, though an external one. He is regarded as a common originator, the source of goodness and beauty as well as the ordainer of laws; and in his case the disruptive shock, produced by the fact that in their operation the laws often show themselves the reverse of good and beautiful, can always be parried for many minds by the doctrines of probation and future compensation. Usually the fact that we, in our relative and conditioned lives and enforced balance of pleasures and pains, often declare that pleasure in the present "more than counterbalances" pain in the past, is taken advantage of, projected into the future,

stripped of its relative character, and made a justification for the absolute sum-total of evil in the Universe. Even those whose logic refuses thus to embrace creative goodness and created evil under a single scheme, may still find in the mere notion of Omnipotence a bond for the discordant elements; for there is nothing incompatible between power and caprice; and it is a coherent view that things which move us to delight and admiration, and things which to all eternity would seem to us ineffaceable blots on creation, have both emanated from a source more or less indifferent to our susceptibilities. But such a bond is denied to the elements of our author's religion; for the simple reason that one of these, Beauty, is directly founded in man's feelings and in his inalienable susceptibilities to pleasure and pain, and another, Moral Goodness, is indirectly so founded, and that these are presented as *co-ordinate* with the third element, the dominance of immutable Law. Here then the discrepancies between what we *approve* and what we *find* in the world cannot be subsumed under any community of origin, or swallowed up in any uniting hypothesis. We cannot appeal to Omnipotence: for however much we acknowledge the overmastering force of natural law, and our own practical submission to it, we have admitted into our Religion, as co-ordinate with the recognition of that objective law, the recognition of something else which is not practical and objective, but experiential and subjective, namely, our own feelings of approbation and repugnance, before which Omnipotence is powerless, or rather is meaningless; a power that should make us approve of uncompensated pain, of that the essence of which is to be objected to, being not so much an impossibility as a contradiction in terms, and none the less so for being called Omnipotence. As long then as we reckon feelings, as well as objective facts, among the elements of which our Religion is to consist, we find for these elements no inner bond, capable of replacing the external bond of supra-human ordinance; and the discordance can escape notice only so long as we take a resolutely one-sided view of Nature. The Eternal and Immutable cannot be cut in two; and as soon as natural law, in the shape of a complete set of facts,¹ is set side by

¹ I may be told that it is not facts, but their abstract unity, that we are to worship: but this position is one to which our author does not keep at all consistently, and which moreover is only plausible so long as it is vague. The inspiring unity must obviously be a unity of *law*; for no one could feel inspired by the bare idea that a number of different things are included in a single sum-total of things. But then, as we have seen, no such single unity of law presents itself. And the more we concentrate our-

side with the joyful feelings that some of the facts inspire, and we are told to worship the combination, the opposite sort of facts insists on putting in its claim for recognition, and the combination falls to pieces. We may pour our oil and vinegar into one vessel, but we shall not, by so doing, conceal their antagonistic nature, or come to regard them with a homogeneous feeling. If they are to combine, it can only be in the menstruum of a supernatural theology.

And in the present instance the pouring them into one vessel, be it observed, is a purely voluntary act on our part; they are not so given us. A consideration on which our author more than once dwells suggests the exact difference. He rightly insists that among the contents of Nature we must include Humanity itself, and the slow but sure development of altruistic sentiment and social order: these, then, may be rightly ranked under a common name with things as different from them in the sentiments they inspire as plague and earthquake, so long as the name employed has no reference to the inspired sentiments. Such a common name is Nature: it is a uniting conception, external to our sentiments, between things which have, whether we love or hate them, the common quality of occurring or appearing in obedience to immutable laws quite independent of our individual will. This unity is one in the making of which we had no concern, and in which, therefore, things towards which we entertain the most opposite feelings may be forced upon us side by side. Religion, on the other hand, only has value for us as a principle of unity produced in our own hearts, and embracing things towards which, whether we regard them as attributes and actions of a single supreme Person or as distinct phenomena, we experience a common feeling of ardour and devotion. It was thus a true instinct which led Goethe, to whom our author points as the great seer of the unity of things, to preserve his conception from disintegrating influence by steadily turning his back on ideas of suffering and sacrifice. The worship of a unity of facts, apart from a unity of feeling, has as truly the note of superstition as to worship some single fact or object, *e.g.*, a reptile, that one

selves on the separate or subordinate laws, the more difficult is it to work up any large emotion towards them in abstraction from their effects on human senses or on human fates. Nor does this apply less, but rather more, if we attempt to regard them under an aspect of unity which our author often substitutes for that of regularity, that, namely, of an external Power or Necessity; for since we interpret the notion of Necessity from within outwards, it seems to contain the relation to ourselves at its very core; so that any emotion connected with it is peculiarly unable to leave that relation out of account.

dreads or dislikes; and to call it religious would be to fail in distinguishing Religion, as something to be acknowledged here and now, from the historic religions in which such superstitions have freely mingled.

If I seem to be pedantically pressing what after all is only a verbal point, I might at least reply that the importance I have attached to the matter of definition in no way exceeds that attached to it by our author himself. In his preface he attributes much of the disastrous contention which he deplors to the want of a true definition of Religion; and it is by means of just definitions that he hopes to show the fundamental agreement between those who believe that they are hopelessly opposed. But if words are of importance even here, where our author believes that this fundamental agreement already exists, still more must they be so where it as yet does not exist; and the words used have a weighty bearing on the actual propagation in an ignorant or hostile world of the truths on which he insists. We may admit those truths to the full, and still inquire what sort of difference in the practical acceptance of them will result from their being preached as a religion. Especially, how would such a mode of presenting them be likely to affect the revolutionary part of society, to whose enlightenment our author naturally attaches the greatest importance? Viewed in this light, it seems to me that no more dangerous word than "Religion" could be selected, under which to rank things as different as, on the one hand, the glow of healthy pleasure from an unselfish action or from a work of art, and, on the other, the fact (in our author's own words) that "if we could measure all the misery there is in the world, we should be appalled beyond description". The realisation of this latter appalling fact, which is as much an exemplification of natural law as that the sun will rise to-morrow, may be quite as important in the interests of mankind as access to the former sources of pleasure; but the attempt to bring them all under one grand conception, and to carry them all down in a lump by the impressive connotation of the word Religion, seems not only unreasonable but prejudicial. In the attempt to be grand and impressive, our appeal will lose the strength which would belong to it on the humbler ground of literal truth. It is as though one should try to get a child to swallow medicine by giving it at meal-times and representing it as food; which would merely produce in him a distrust of food in general, without making the medicine any the more palatable. And as regards this question of preaching the godhead of Nature to the poor and needy, we must remember that in proportion

as the conditions of a man's life are hard and narrow, is it impossible that he should take our author's all-round and impartial view of Nature. The view from the Brocken at which Goethe gazed, the gorse in bloom before which Linnaeus knelt, are not for all; they would not be for all even could they be physically presented at will. Absorption in the imposing and cosmical aspects of the Universe presupposes some considerable degree of leisure and comfort: the mind, like the body, needs room to expand. We shall not reconcile men to the rigour and narrowness of their lot by pointing to the stars; but by appealing to their sympathy with their kind, and by opening up for them an imaginative interest in the future of this planet, through indications that the conditions of life on it are slowly improving. The religious imaginations of a favoured few, soaring above mundane things, may be able to find rest and support in the Cosmos; but if for the large majority of human toilers and sufferers the shelter of this half-way house is bound to fail, the religion that cannot reach Heaven will find its account, like Antæus, in keeping to the earth. And within this narrower circle the distinction, for religious purposes, of the personal centre from that which encompasses it, becomes still sharper; for the terrestrial environment contains plenty of what is far more alien to the idea or possibility of worship than the unoffending stars. It is only by distance that the hostile and depressing side of Nature's character vanishes: poets may praise the moon for her beauty without thought of her bleakness and sterility, and the many will merely remain indifferent; but if the earth and the life on it be so praised, the many will rebel.

The lesson must, of course, be learnt, as our author plainly sees. Of the texts which he suggests for the teachings of his "free clergy," one of the first is that the path of happiness for the individual is and must continue a hard one, and that it is not blocked by simply artificial barriers, or able to be cleared by any sweeping change in the present social fabric. This is a most important thing to inculcate, and there is nothing to hinder anyone from setting to work at inculcating it: but it is a piece of hard and repulsive common-sense; it belongs to the laws of Nature, but not of Nature as in any way worshipful. Even a preacher who took his texts from our author's own pages might find them somewhat less than inspiring: it may be a consolatory, but is hardly a religious, suggestion that "we become insensible to whatever evil does not affect ourselves"; nor would the apology for life that "though the happiness in it is not great, the variety is," be

a hopeful theme to expound to a congregation of factory-hands. The thought that for very long to come many lots must perforce remain hard and narrow, and that perhaps for ever happiness in life will be to many but a transient bloom, forces to the front an aspect of natural law which it seems like mockery to dignify with any sacred name. There is no dignity in privation and suffering, regarded as mere pieces of unavoidable fact. The Christian, in taking up his cross daily, may find that he can thank God for the cross as well as for the strength to bear it: but he is enabled to do this solely by that confidence in the ultimate designs of Providence which the hypothesis before us excludes; his cross has dignity and sacredness as part of the design of a personal and moral Being. If a Stoic can ever be said to bless his cross, it must be simply provisionally, as a means, a school of discipline for learning endurance and so reducing the burden of future crosses—*i.e.*, for reducing something which the very fact of his seeking to learn so to reduce it shows that he regards essentially as an evil; and the moral beauty of Stoicism seems merely degraded and obscured, when the "natural" weight and hardness of the cross, and the pitiless laws of weight and hardness, just because they are eternal and irreversible, are put on a sort of equality of excellence with the human qualities that resist their pressure; and are even combined with the very virtues which prevent the spirit from bowing beneath them, into an object of enthusiastic contemplation before which the spirit is to bow.

But there is another and still more vital objection to this compound religion. Religion must be *for all*: it must be looked on by its members as within the reach of all. A Utilitarian may find it possible to hold that conscious existence is desirable on the whole, and that his principle is being carried out in it, if only the number of lives in which happiness preponderates exceeds those in which the balance is irretrievably reversed; but he will not go so far as to demand from one of these hapless and uncompensated individuals any attitude towards such conditions but one of sick rebellion. Such an attitude on their parts will only be regarded by him as part of that unfortunate lot which, while regretting it, he holds to be an item of conditions that are on the whole desirable; and it will thus introduce no fundamental discord into his view of the Universe. But then he does not, or will not if he is wise, call his view of the Universe a religion. The connotation of that word seems alien to the very possibility of such exclusiveness. It seems impossible for anyone who holds a body of beliefs and sentiments in the

manner for which our author contends—the only manner, that is, which justifies the treatment of them as a religion—consciously to admit that for others a similar holding of them is absolutely out of the question, and that consequently his "religion" is one in which these others are for ever precluded from sharing. I am only vindicating for "worship" the unique and lofty sense which our author throughout ascribes to it, when I say that a God whom we cannot all worship is a God whom none of us can worship: in the very act of admitting that to some, through no fault of character or perversity of judgment, he is and must be the reverse of worshipful, his worshippers cease to worship him. So fundamental is this catholicity in the very notion of a lofty religion, that the notion dissolves in the presence of even a single case where the catholicity fails: touched by the mysterious implacable reality of a single life in whose owner's refusal to worship we can see no moral or intellectual flaw, the divinity to which our souls have clung becomes a cloud. It will be no valid answer to this to say that the individual's power of worship overflows the limits of his individual lot—to point to instances showing that, even in the absence of supernatural hope, incurable personal ill does not necessarily produce a spirit of rebellion or a yearning for general annihilation. I do not deny that the enlightened Stoic no less than the blind devotee may thus occasionally cast himself under the car of Juggernaut, and that the self-devoting impulse of the human spirit may make a car of Juggernaut even out of such an abstraction as destiny. Even so, it would be hard to prove that in his conviction of the inexorability of that destiny there lurked no shadow of doubt as to whether his eyes were truly in sight of the ultimate issues of things; and such a doubt means hope. But let that pass: grant that we approve and admire such a spirit: what is it that we admire? It is surely the love for humanity, the sympathy with others' welfare, which the sufferer is able to oppose to his own fate; and the religious and worshipful character of such love and sympathy I have not for a moment called in question: what I question is the religious and worshipful character of the fate itself. The inhuman fate and the human feelings, the very things which our imaginary humanitarian wins our admiration by opposing one to the other, and which I regard as essentially opposed, are the very things which our author unites, under the theoretical title of divinity and by the practical claim for worship. If he ever gets a Stoic to profess agreement with him, the spectacle may be sublime, but it will be neither logical nor religious; for keeping steadily in

view the point under discussion—which is the attitude of the innocent sufferer towards nothing more nor less than the laws by which he suffers—we might fairly say that, so far as his attitude was not one of aversion and even hatred, it partook rather of the nature of fanaticism than of religion. If we call the spirit of wanton self-immolation "religious" in the Hindoo, it is with distinct reference to his want of enlightenment, and solely by that relative and historical use of the word to which I have already adverted—a use quite out of place in the gospel of the enlightened future.

The result of our author's welding of non-personal law with personal virtue in his "natural" object of worship seems, in fact, simply to mar the true and beautiful aspect of that other great gospel of the future which is in its way a "natural religion"—the "Religion of Humanity". Positivism, though it does not profess to grapple with the mystery of evil, at least does not bend the knee before the system of natural law of which evil is a prominent feature: indeed its most popular English exponent has treated even the more majestic aspects of "cosmic emotion" with very scant ceremony. The consequence is that the religion of Humanity is, up to a certain point, one in which all may share; it has that essential note of a religion. Many may find it inadequate; but no one will be excluded from it by discovering, in the deepest depths of his personal experience, the incompatibility of the elements he is asked to unite. Whether the unique religious sentiment, on which the Positivist no less than our author insists, can permanently exist towards a Being whose gifts to us, as individuals, have come from no personal love and comprehension, and who, for all our service, is powerless to help us in the direst straits of life, is a separate question. But even those to whom the apparently uncompensated evil in the world is too huge a fact for a "religion" to pass by with regretful acquiescence, who find the mingled peace and ardour which belong to true "worship" impossible on such terms, and who cannot recognise the living head of a spiritual kingdom in an image wrought of even the finest human material, merely because it is bigger and grander than themselves, may still feel that the dream of such a deity is an imposing one; and that the element which our author would contribute to it is one rather of weakness and disunion than of dignity and strength, not so much the head of gold as the feet of clay.

The language I have used may seem to some unduly pessimistic: at any rate, it may be said, if some things cannot be remedied, the less they are thought about the better.

It would be easy to reply that the very prominence which one is impelled to give to these things may fairly be reckoned among the practical ill results to which a deification of impersonal law leads. The one is the natural answer to the other: for if ever there is an excuse for calling attention to Nature's darker side, it is surely when one is asked to worship her. But in the present controversy no such excuse is needed: the book before us contains passages which make it impossible to doubt its author's own intense realisation of that darker side. In addition to remarks already noticed, I may refer especially to the place where he recognises how easily the existence either of individuals or of whole communities may sink below suicide-mark; and to the concluding pages in which he himself describes the pessimistic position. This man sufficiently shows that, whoever else may, he at any rate does not sit light to the significance of irremediable evil, nor escape the chill blight under which "others," and so the panacea of feelings and work for others, become infected in our eyes with the paltriness and transience of our own personality; while at the same time the spirit of courageous wisdom which breathes through every page of his book, shows how little ground honest clearness of vision on such matters need afford to the usual charges against pessimism. But that he recognises the rock of offence only makes it stranger that he should imagine himself to have got round it. All this grief and pity at things as they are, and desire to have them otherwise, which are such real elements in his own mind, have been kept in abeyance in the passages where he insists on confronting now an "atheistic" conventionalism, and now a paralysing pessimism, with the vigour and enthusiasm of worship—taking no account of this *tertium quid*, this grief and pity, which is neither of the opposed terms, which is entirely remote from the enthusiasm of worship, and yet so little paralysing or conventional that it may be the very life-blood of the enthusiasm of duty.

An impression is in fact created by particular expressions, as well as by the general treatment, in the latter part of the book, that the writer's eminent sanity has interfered with his keeping steadily in view the depth and height of the meaning attached by him, in the first part, to the chief terms of religious phraseology. Nothing, for instance, could be more reasonable than to include, as a main subject of popular teaching, the demonstration that "the institutions left us from the past are no more diabolical than they are divine, being the fruit of necessary development far more than of free-will or calculation".

Yet, so far as they are matters of necessary development, these so-little divine institutions are parts of an order so divine that in the earlier chapters we have been bidden to call it God. Again, when insisting on the recognition of that law of Nature which is independent of us, on the acknowledgment that "the universe is greater than ourselves, and that our wills are weak compared with the law that governs it," he says that the lesson "ought not to be mastered as a mere depressing negation, but rather as a new religion"—with perfect justice, if "religion" could mean merely the set of conceptions and emotions by which our lives may be most wisely adjusted, but surely not with justice if it is to retain in its connotation the habit of enthusiastic contemplation. "Great" is a conveniently vague word; but worship is too peculiar and personal a feeling to admit among its objects two standards of greatness; and to worship two masters is harder even than to serve them. If we make the attempt, we find at once that either Nature or Morality must be sacrificed; for by the standard of the latter an impersonal and unmoral Universe is *not* "greater than" but less than ourselves. And again—strangest instance of all—in the very act of recognising the sense of an unmoral Power outside us as one which does and well may strike man with terror and "eternally trouble his repose," the author thinks it enough to add that the word "religion," *in its ordinary usage*, is not taken to include this aspect, and that such feelings belong rather to "superstition"; that is to say, this exponent of the "egregious mistake in nomenclature" by which "religion" has been wholly diverted from its proper meaning, this champion of Religion as inclusive of our *whole* feeling towards Nature, is found overleaping the radical objection to his own definition on the crutch of that limited and perverted usage which it is the aim of his whole treatise to supplant.

The so-called unity, which will survive the recognition of the "natural" God as the power of corruption, reaction, and barbarism, no less than of beauty and progress, may seem the stranger for the doubt whether, even on our author's own ground, it was necessary. What drives him to conceive the divine power, whether external or immanent, as nothing less than co-extensive with Nature? Is there no distinction between deadness and life? Is it only in metaphor that Evolution could be described as not merely a gradual process but a gradual victory? Is the idea of a divided Nature, and of a divine Being working itself clear from stubborn elements of grossness and imperfection by a process in which it is for us to share, too absurd even to be mentioned?

Perhaps, however, this spiritual development could have no interest or meaning for those whose spirits are to have no continuing share in it, so that any such transfigured Manicheism is excluded from a purely mundane religion. The same honest determination to keep to the most rigidly mundane conceptions, to find common religious ground for as many persons as possible by "taking the scientific view frankly at its worst," must further, I suppose, be taken to explain the exclusion from the argument of all metaphysical along with all supernatural views. "At its worst" may perhaps be intended to mean "at its least philosophical" as well as "at its least obviously religious"; whence the conspicuous absence of any hint that the "what" or "how" of Nature has ever been a philosophical question, or that any view of the external world other than the crudest realism of "common-sense" has ever been put forward. Or is it possible that a suspicion, inevitably suggested by the description of the scientific position in the opening chapter of the book, is really well-founded; and that the "philosophy" which would transcend the dualism of mind and matter is to our author, no less than to the scientist, as much an object of scorn as the pseudo-learning which he brackets with it, the "erudition" and "commentatorship" which create dogmas out of the untested *dicta* of the past? In either case, one cannot but remark that resolutely to ignore the philosophical stand-point is scarcely the most hopeful or legitimate way of lessening the gap between the thinkers and the masses, which he regards as so ominous a sign of our times.

And now, to pass to a final topic—one which the concluding pages of the book make it impossible to avoid—how do the peculiarities of the author's view of Natural Religion affect its relation, which he so prominently suggests, to Supernaturalism? (I adopt this last unfortunate and meaningless term, as I suppose he does, because common usage supplies no other single word for the suggestion of supra-mundane existence and hope.) First, then, must not the disintegrating effects of that jarring unmoral element which has so long distressed us, be traced on from the Natural into the Supernatural Religion? No scientific mind can imagine the transition from the "natural" to the "supernatural" as a leap: it is only the self-stultifying word "Supernatural" itself, which prevents the proverb "*Natura non habet saltum*" from being as applicable here as anywhere else. And it would surely be meaningless to deny to the object of our "natural" worship—to that which we are to regard here with all the sentiments of devotion and faith that we can

muster—a true kinship and continuation with that further something which is introduced expressly to give their fullest scope and satisfaction to those very sentiments. Hence a teacher like Dr. Martineau, who is quite in agreement with our author in regarding "Supernaturalism" not as the root but as the crown of moral life, can bring in his supernatural religion as a thoroughly invigorating and irradiating influence, because as a necessary means for the further continuance and development of the moral nature, and for the satisfaction of unsatisfied moral cravings. With such a teacher, Supernaturalism is immediately akin to the spiritual element in life which at once suggests and warrants it; and includes both the explanation and the necessary issue of that spiritual element. But how different is the case, when an unmoral and unspiritual element has been included in our "natural" object of worship. How can that element be reasonably got rid of? If "Existence" has any continuous relation to ourselves, could it be reasonable to regard as less than a *necessary* condition of existence that for which, as a condition of our present existence, our very widest powers of emotional realisation have been demanded? Here, then, no special alliance of the spiritual with the "supernatural" will be defensible. The government of the departments of the Universe which are beyond our knowledge may just as well be unmoral as that system of "natural law" which we know: there will be no reason why a future life should imply moral purification; why satisfaction should ever be given to our yearnings for a compensating issue to Nature's myriad injustices; or why the *ἄλγ* of cramping conditions should not be as immortal as the spirit which struggles to transcend it. On such terms, the intuition of the "supernatural" had no business on our author's pages; it perishes before it is conceived; it is irrelevant to the very needs which are supposed to suggest it.

And lastly, suppose for a moment that he would consent to drop the discordant impersonal element in the "whole" which he presents for our worship. Natural Religion would then seem divisible into virtuous action, conquests over Nature in certain directions, and a healthy exercise of the various bodily and mental faculties, on the one hand; and on the other, manful endurance of the inevitable tedium, ugliness, and evil, of which a large part of Nature consists. It becomes then most important to realise what amount of difference will be made by the addition to these elements of even a faint intuition of a "supernatural" Providence, and of even a bare hope of a future life. It is a difference which

our author, judged by some of his concluding passages, cannot be accused of explicitly minimising; since he recognises as legitimate the doubt whether "the known and natural can suffice for human life"—a doubt for which, as thus generally expressed, might be advantageously substituted the precise and scientific statement that for some human lives it does and will, and for others it does not and will not, suffice; and he practically admits that for many logical minds (does it need much reading between the lines to add for his own?) the new element is the philosopher's stone which turns the dross of life to gold. But surely when we look back over the treatise from this final point, we cannot fail to see that by implication the difference in question has been minimised throughout, and that the pervading contradiction of the book has been here again exemplified? How many men will find that they can believe or even half-believe the one gospel, and throw the whole strength of their preaching into the other? This question implies no denial that "religion deals in the first instance with the known and the natural," and no assertion that mundane morality is dependent on the survival of Supernaturalism. We may go so far as to say that, were there men who could find it possible and honest to preach one gospel as a supplement to the other, those scientists who should treat them as reactionary opponents on a vital point, instead of as the more advanced and sanguine wing of their own progressive party, would be guilty of very short-sighted and unscientific conduct. But the question is just of this possibility; of the possibility of a common attitude of enthusiasm towards things so different as life with and life without the "supernatural" element, towards two "Eternals" one of which has for its essence the Love and Righteousness which are expressly excluded from the other—whether these things can ever to the same man seem so like each other, that he can pass from the one to the other without any paralysing fall of temperature, and regard and preach the mundane gospel with the worshipful fervour that our author demands of him. To pursue into detail the radical difference of attitude which Supernaturalism carries into every corner of life, and so into every corner of that with which in either case the preacher deals, would carry us too far: it must suffice to suggest that, as addressed to the majority of mankind, the keynote of the one gospel is resignation, and of the other, hope.

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V.—ETHICS AND SOCIOLOGY.¹

It was in 1839, with the publication of the third volume of the *Philosophie Positive*, that Comte promulgated his new conception of social science. Four years earlier Quetelet had made public in his book *On Man and the Development of his Faculties* the result of his statistical studies. But neither of these works had much immediate effect on the general intelligence of England or even of Europe. In 1843 J. S. Mill's *System of Logic* first saw the light. There the English public had its earliest introduction (if we except some review articles) to the views of the Positivist chief on the laws of intellectual progress and on the proper mode of studying moral phenomena. To the principles and ideas of method found in the *Philosophie Positive* Mill gave a generous, if somewhat sober, welcome: but he shrank, even at the first, from the imperial and sacerdotal tendencies of systematic sociology. For Quetelet a more enthusiastic apostle was prepared in H. T. Buckle. The first volume of his *History of Civilisation*, which came out in 1857, began by introducing to English readers the surprising uniformities which the Belgian statistician had shown to be exhibited in the actions of human beings.

From another quarter man's amenability to the methods of science was enforced with more originality. Darwin's *Origin of Species* in 1859 broke down the barriers which natural classification had opposed to the regress of scientific inquiry: and in 1862 Mr. Herbert Spencer's *First Principles* gave some coherent account of the way (already adopted in his *Principles of Psychology*, ed. 1855) in which Science henceforward must show what a thing is by tracing the process by which it has come to be. In 1871 Darwin's *Descent of Man* expressly showed how the general principles of evolution might serve to explain the characteristics of civilised man. These views, like those of Buckle, found in Germany even more enthusiastic welcome than in England. There the Darwinian example was followed up by applying evolutionist ideas to ethics and to language: and the German translation of Buckle's work by Ruge soon reached a fifth edition.

Vast issues would emerge if we were to ask how far this revolution in the attitude of science to man was due to contemporary or antecedent changes, either in metaphysics or

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in the methods of historical study. As usual, no doubt, no one department of activity can be singled out as the fountain-head. Experience, by unobserved attractions amongst intellectual and moral steps of progress, prepared men's minds in silence; and once a conspicuous instance had been signalled, the law so detected was rapidly extended over the whole range of the scientific problem. Successfully applied in a considerable branch of knowledge, the idea of evolution was no longer a hypothetical dream: and development, which had hitherto mainly figured in books on logic and metaphysics, seemed to gain corroboration when it found a graphic illustration in the phenomena of nature. Naturalists had been partially aware that the seemingly abrupt intervals between the characteristic types of animal and vegetable species were the sum of many gradual and unimportant variations appearing in the several individuals of a group. They had complained of the difficulty of separating species from species, and of giving a classification which did not confuse what nature had put asunder, and put asunder what nature had conjoined. They had seen the analogies of structure between different orders of animals, and had scarcely failed to note the parallel between the gradations which mark the growth of the adult form out of the embryo and the differences which divide the various adult forms in a species from each other. But if they observed these facts, the only lesson they drew was that the plan of organisation was essentially the same through all orders of animal life, and that distinction of species was a subjective device only, employed with but indifferent success to simplify the anomalies characterising the real objective world.

The motto of older science had been 'Isolate the phenomenon to be studied': *Divide et impera*. Each species was treated as a complete and independent object, and in the first instance examined for itself. The new way of looking at things reaffirmed an old philosophic dictum that the particulars could not profitably be studied except under reference to their enveloping system. It now became a scientific postulate that the structure of animal, plant, or anything, should if possible be regarded as a function of several agencies, and be explained by estimating the relations in which the object stood to other natural agents. Each natural object thus came to be held a point continually affected by and reacting upon its surroundings until an approximate equilibrium between them and it was reached. At every stage in the course of existence the individual, endowed with its special capacities, is subjected to pressure from the action

of other active capacities around it,—engaged in a struggle where in extreme cases it may conquer or die, but whence in general it will issue with a structure variously modified and accommodated. The plant and the animal, in particular, owe the specific differences which they possess to-day partly to inherited energies, partly to adjacent influences. The existing fauna and flora are the product of the interchanges of action which in infinitely varying degrees have gone on amongst the creatures of the past; and they in their turn are now undergoing influences which will in course of time result in a novel phase of terrestrial habitants. Following up the vistas thus suggested to the imagination, we seem, as we recede into the depths of the past ages, to approach forms of greater simplicity, more widely modifiable by circumstances, and only after slow processes of accommodation acquiring stability and permanence. It seems even possible by the aid of analogies to trace out the hypothetical steps by which such a rudimentary organism has in the lapse of countless ages embodied in itself a complex framework of organs, a system so stable in ordinary conditions that to us whose records only count by thousands of years it seems a necessary portion of the Cosmos.

Such a suggestion, though far from new in the history of knowledge, came like a revelation to the caterers for the reading public. It soon led to the inference that man too in his moral and spiritual, religious and artistic, powers of to-day is a product of circumstances, no less than the animal and the vegetable organisms. He too is due to the action of his conditions upon a vast vacuum of possibility for development: and here too we can go back along the line,—and here too it must have been a long line—by which out of a being with hardly any morality or spirituality at all he has grown into a complex intellectual product possessed of art, science, and religion. But—as we are emphatically reminded by Comte and others—there is one feature which demarcates man from the animal world. The animals and vegetables stand, each as an individual in its species, alone, separately exposed to the influences of their environment. But man is essentially a social being. Even where, as in case of the social bees and ants, some analogy is presented to a human community, the unions are really unlike. The hive and the ant-hill are as it were a magnified individual, marked by a unity even closer than a human family. The hive may in fact be compared to a diceious plant: the queen, working-bee and drone, are only three fractions out of which the 'great-bee' is made up. Here, and here alone, we find

realised the ideal community of Plato. To such an extent is this the case that some modern *savants* incline literally to accept Virgil's dictum about the hive (*mens omnibus una est*) and maintain that there is one collective consciousness for the whole group. No doubt there is a tendency in the specialised developments even of human societies to lead to a considerable amount of social stratification. It may not go so far as those characteristic differences of physique which voyagers in the Pacific note between the two halves of the social scale; it may not always mark off the victims of sedentary and mechanical pursuits in the way to which the Greek aristocrats referred with so much pride. But it is characteristic of all semi-barbarous societies to exhibit such physical divergencies: and it is rather the ideal of ethical progress than the actual law of any society to maintain amidst speciality of function a general unity and common ground of human development, both moral and physical.

This sociality, so characteristic of the human being, acts as a sort of elastic buffer between the individual and the outward world. In the case of man, therefore, the problem of evolution has to be approached in two stages. First of all there is a study of the elements and forces which contribute to organise society, and shape the forms of its religious, economical and political structure. It is desirable to ascertain, if possible, the laws which govern the sympathetic connexions between one part of the body social and another, and the order in which its states succeed each other. This is the problem, known in a limited and practical aspect to the Greeks as Political Philosophy, and to the moderns, with a wider scope as Sociology. The second stage of the problem—the problem of explaining the genesis of the moral and spiritual man—has been called Ethics. It regards man not as an individual in nature, but as a member of a social body, of a social organism which accumulates and transmits to him the influences of external circumstances. In this social organism so-called are stored up the means by which man both intellectually and materially lives. If we take the solitary savage hunter as the nearest approach to the purely animal type, we find a being who meets the natural forces directly and alone. Without companions, tools, or means of union, he is the plaything of elementary nature, and has no reserve forces, no accumulations, no capital, to meet unusual demands upon his resources. His life is a mere aggregation of several struggles for the means of life, in which no instant has any bearing upon or derives much benefit from the achievements of another. But even the hunter, and still

more, the more social types of humanity, cannot be treated as a mere resultant from the action of direct physical modifications. The social factor interferes from the very first. Social man earns his daily bread not by his direct action upon nature, but through the instrumentality of an economic system of capital and labour: he thinks and learns by means of a language which is under the guardianship of his nation, by means of a scientific pabulum which is stored up in books and protected by corporations: he loves his kind and worships his God by means of permanent institutions into which the social body has constituted itself.

Man was, in short, declared to be a social and what is perhaps even more, an historical animal. It was proclaimed that the mechanism of society had made him what he is. It seemed as if here we again had a picture before our minds of the rude and spiritually naked being who gradually as he lives puts on from his social environment some mental, æsthetic and moral characters, some forms of thought and principles of conduct, and who, having lived, hands down to his children if not these forms and principles themselves, at least an organism predisposed to develop them under much slighter stimuli than were needed for the parents. The animals inherit only such capabilities, only such capital, as can be organised in their bodily framework. But in man's case the achievements of one generation are laid up for the use of another: and the individual enters upon a great inheritance of potential wealth, the secret of employing which is entrusted to him by tradition from his forefathers. This is the true heredity in human culture: and not any imaginary localisation of categories and ideas in the lobes of the brain, such as the last and grotesquest phase of the hypothesis of innate ideas would ask us to believe. From this objective cornucopia of mental and moral wealth man fills his own individual cup: but, in so doing, he is but drawing from the bank money which he and his kind deposited there, and using it, if he uses it well, so as to increase the number of talents, if ill, so as to diminish the capital of humanity.

A similar conclusion had been brought home, and in a more strikingly real way, by the lessons which had been drawn from statistical researches, especially as prosecuted since the third decennium of the present century. A quivering horror passed over society as it read in the pages of Buckle that in a fairly large given population the yearly number of births, deaths, and marriages, of crimes, of suicides, and even of unaddressed letters which found their way

to the Post-office, remained without any noteworthy variation from one year to another. Even those familiar with the adage in the poet—*Sine Cerere et Libero friget Venus*—were far less deeply impressed with the law thus expounded than when it was stated in the shape of a tolerably constant ratio between the cost of a bushel of wheat and the yearly number of weddings. There is a tribute,—so the founder of moral statistics is never weary of repeating—which mankind pays with more regularity than what it owes to the treasury of the state: the tribute which it pays to crime. Year after year the same crimes, the same punishments, it is asserted, reappear with alarming uniformity in each country, in each group of human beings living under similar conditions. It seemed as if there were a fixed tale of victims set apart every Christmas to be offered in the course of next year on the altars of Hymen or of Libitina. And whereas Süssmilch, who, a century ago, called attention in Germany to these uniformities in the birth, death and marriage rates, had used them to illustrate the doctrine that Providence did all things with mathematical accuracy, the new school rather left an impression that a horrid Moloch ruled the destinies of mankind. What the theologians had called God, the scientific metaphysicians styled cosmic forces and natural laws. A gruesome Setebos, who cared nothing for individuals but only for the kind, and who, as palæontology had illustrated, had but slight sympathy even with any kind, seemed to be the only god left to sport with this lower world.

The statistical theorists proposed to clear the way for a science of social man, by getting rid of the objection that the acts of individuals are not amenable to calculation. They offered proof that by observing these acts over a sufficiently large group—especially a group possessing political, national or social uniformity—we should find that the acts due to individuals are one year in quantity and quality merely a repetition of what they had been the year before. The greater the mass of individuals observed, the more individual peculiarities both physical and mental are obliterated in a general average or mean. Such an average man (*homme moyen*) is the proper subject of all social propositions. The acts which were specially selected for observation were the criminal statistics of a country, the lists of suicides, and the numbers of marriages. There are few available statistics for good actions: but by a remarkable application of metaphysical subtleties, Buckle argued that, the sum of human action being constant, a plus on the bad side must be com-

pensated by a minus on the good side. As for marriages there may be some doubts as to the place they should have in the classification: but here the ingenious theorists found a point which they did not let slip. "If there is one circumstance in life," said Quetelet, who is quoted with admiring acceptance by his followers, "where a man has most interest in acting circumspectly and using all the power of his free-will, it is unquestionably when he proposes to marry." But with the marriage-lists before us, it is clear that this free-will counts for nothing.

This reference to free-will does not seem particularly happy. However necessary circumspection may be in theory for those bent on matrimony, it is probably not very largely exercised: and even if it were, though it might lead to some difference in the persons chosen, it would barely affect the numbers of the unions. Landor at 36, though theoretically aware that "marriage unrolls the awful lot of numberless generations," at once declares "I'll marry her" when he sets eye upon a young lady at a ball, and carries out his whim. And many people probably would echo the gentleman in Miss Austen's novel: "I was in the middle before I knew that I had begun". It seems even more pitiful to speak of the free-will of the criminal and the suicide. Without probing very deeply the mysteries of these dark chambers in human history, it may be said that, unless free-will merely means the absence of external compulsion, the criminal and the suicide, apart from the not infrequent cases where he is the victim of disease, passion and intoxication, rather drifts in semi-fatalism towards his miserable goal than actively purposes and pre-determines it. If such statistics prove anything, it is rather that in the ordinary run of life "volition is extremely rare: nearly the whole of the practical life of man is and has ever been transacted by an unconscious force" (*The Alternative*, p. 385). Though even this may be going beyond the evidence.

It should be added that the amazing uniformity sometimes alleged to appear in the yearly budget of crimes was considerably overstated; that the limits of variation were wide, and that much depended upon the manipulation of the tables of data. It should still more be added that such deviations were to be expected, so long as the acts tabulated were known at least to depend on certain conditions, which varied in some cases apart from human interference, but in others were distinctly modifiable by it. There is no doubt, for example, that an abundant vintage means an increase of crime of one kind: that a failure in the harvest means

increase of another kind of crime. And as to the modifying power of legislation, there is as little doubt that the social condonation which, *e.g.*, attends suicide removes a powerful stimulus against the act, and renders any formal legislation perfectly nugatory.

But even with such drawbacks, enough remains to make it clear that individualism has not the whole bundle of keys to the secret of man. Man must not be studied in isolation from his surroundings. Living in a community, he voluntarily renounces a part of his individuality, to become a fraction of a great body which also has its life and its various phases. "It is," adds Quetelet, "the portion of his individuality which has been thus put in pledge that ultimately regulates the chief social phenomena. It determines the customs, requirements, and national spirit of a people. And the regularity remarked in the series of events must be attributed not to the wills of individuals, but to the habitudes of that concrete being we call a people and regard as endued with a will of its own and ways which it is reluctant to change." In normal circumstances the average man may be described as the child of his people. The explanation of his actions, his beliefs, his rules, is not to be sought in him, but in the collective being from which he derives them. Alike for good or for evil, the average man—and it is of him that science can most obviously treat—is only an exponent of the tendencies and wishes prevalent in the medium to which he belongs. The criminal, in this light, is seen to be the product of a diseased society: a society which has the same longings, the same estimates of worth, as the thief and the murderer, but has not the same temptations and the same constraints. The good man, too, owes half his goodness to the sympathetic opinion in which he lives, and which bears him up into heights of sacrifice and charity which his unassisted energies would never reach. Man is not an independent monad in the world: he and the society in which he is set are bound by chains of habit, by a tendency to persist in *statu quo*, a power of inertia which whenever the will is dormant carries on the movement which it has with mechanical repetition, and even struggles against the will which seeks to alter it. It is thus evident that ethics cannot stand independent of politics. Hence every soul which has found what it deems higher truth seeks by an instinct of self-preservation to form an association, to found a brotherhood,—feeling that unless it can stand strong in the sympathy of a band, it will soon fall back into accustomed paths. Hence the powerlessness of legislation which can only attack

an isolated offence: hence the omnipotence of an education which can create a tone of character and mode of feeling with which the beneficial agencies of law will find themselves in harmony.

It is scarcely to be wondered at if these considerations tended to shake the conventional methods of ethics out of the steady grooves in which they had run for more than a century. English moral philosophy had cut itself completely off from the two great ethical thinkers of the 17th century. Hobbes had the honour of having his main political and moral theses condemned not long after his death by the University of Oxford: and Cudworth had to sustain the more emphatic condemnation which the practical understanding of his country casts upon the metaphysician. Hobbes unfortunately wrote under the tension caused by an age in which the all-consuming fire of partisanship turned both writer and reader into polemics rather than students of truth: and Cudworth made the mistake of supposing that the most idealist of philosophies, and that an ancient system, could come home to the needs of modern England. Yet it is not too much to say that calm examination of Hobbes and Cudworth might have prevented much tedious iteration of moral commonplaces in the literature of the 18th century.

Ethical thought, however, took another direction, at least in England. It rejected the attempt made by Hobbes to base ethical obligations on the authority of a sovereign power in the commonwealth, as well as the attempt made by Cudworth to show them founded in an intelligent order of things anterior and superior to human affairs. The moralists from Locke and Butler down to the second quarter of the present century made it their main care to steer clear of metaphysics, and to keep up no more than a minimum contact with theology and jurisprudence. This was a natural recoil from the Scholastic amalgamation between the Christian graces and the heathen virtues: and no less a recoil from the hybrid progeny of ethics and jurisprudence, which under the name of Natural Law commended itself to the philosophers of the Continent. The English moralists took up a definite, if somewhat narrow, problem. They discussed the abstract question of the principles in the individual man which enable him to distinguish between right and wrong, and which lead him to pursue the former and avoid the latter. How is a man by himself to decide what is right? And why is he to do what is right?

The answers to these questions divide last-century moral-

ists into two groups: the Utilitarians and the Intuitionists, as they are generally called. The Utilitarians sought to establish that the true test of right or wrong conduct is, whether it conduces or not to the happiness of human beings. The moral sentiments seem no doubt to have another rule: but it will be found that they soon learn to reserve their approbation for what is useful, and their disapproval for what is injurious to the community. In earlier stages of the theory it was supported by theological presuppositions. Apparent exceptions were got over by the reflection that although certain kinds of good conduct had no obvious usefulness in the present world, they were still advantageous in consideration of the bounteous rewards awaiting their authors in the world to come. But gradually as the theory was secularised, it was laid down as a general principle that the merit of what were commonly regarded as good and virtuous actions was based on the preponderance of advantage which the prescribed conduct would in the long-run secure for the best interests of the great majority of human beings. The problem of morality seemed at last simplified and brought to a workable test. Some doubts might be raised as to what were the best interests of human beings: but they were settled by an appeal to the general uniformity alleged to exist in the common estimate on these matters. The suggestion made by the theory was at any rate all in favour of progress and reform. Utilitarianism demands continuous adaptation of ordinances and beliefs to needs. No dignity, however sacred or august, however ready to take its stand on unquestioned and superhuman authority, can conceal its weakness when required to produce as credentials a proof that the world is ascertainably the better for it. But utilitarianism often brought hardships in the train of its exceeding haste to remove abuses. And that not merely through the common error which makes the advanced philanthropist think he knows what is good for others better than those others know themselves. Benevolent despotism, were it otherwise right, is but a secondary evil. There is another and deadlier source of mischief.

The experiential process through which beliefs and institutions have been established is often the slow ingathering of ages: and the transient individual is seldom in a position to estimate fairly the weight of the testimony in their favour. So much in social growth has been due to forces operating beyond the ken of consciousness or memory,—forces of which an analytic estimate would require, and probably in most cases exceed, the utmost resources of logic and computation.

The utilitarian, anxious to have nothing held sacred except what can bring objective witnesses on its behalf, is only too likely, as human nature goes, to forget that he has not a 'dry light' of impartiality, but is fired with a zeal which, however honest in abstract professions, is liable to the attraction of personal prejudices. He is guided by the maxim which if good in law is questionable in logic: *De non apparentibus et de non existentibus eadem est ratio*. What he could not detect by his means of observation, that he denied to exist. He elevated his single powers into a standard of non-existence. His principle may have been abstractly just, but it could only be applied under the guidance of historical analysis, and with due regard to the complex constituents of human nature. Instead of looking at the matters of morals and religion as so many things in juxtaposition, he had to learn that they were held together by real though indiscernible ties, and that one portion could not be harmlessly dis severed from another. The want of such a perception that a delicate sympathy beats through every fibre of human association made the older utilitarians harsh and sometimes vulgar in their methods.

To some minds probably it was even a graver charge that the utilitarian theory did away with the fixity which was at least in theory associated with the recognised moral distinctions. Right and wrong seemed to be made dependent on a mere difference of weight when consequences were laid in the scales of the balance: and even if the consequences were professedly general averages, it might be urged that they were probably subject to periodic variations, or even in some cases to revolutions. But such a complaint, though probably legitimate against occasional applications, is invalid against the principle of the method. It is an external and casual limitation of the utilitarian principle which stops it short at those partial or temporary utilities which we call expediency. The horizon of utility can be pushed out beyond the limitations of a particular time or place: it can transcend the bounds fixed by individual fancy and desire, and make itself conterminous with the furthest conceivable limits of the distant and the future. Yet when it thus looks at human actions, as it were *sub specie aeternitatis*, and approximates to that 'idea of goodness' which Plato made the ultimate canon of conduct, it may be questioned whether it has not changed the basis of its character, and surreptitiously appropriated the note of idealism.

The other theory of last century which attempted to justify the belief in moral distinctions was that of a Moral Sense or

Conscience. Man, according to this view, possessed a special and original power of distinguishing right and wrong—a spark of the divine light, which, if he only kept his eyes open, would always show the right path. Against this infallible arbiter within the breast, no merely outward authority, no argumentation which failed to alter conviction, could count as worth anything. And yet the believer in such a sense must sometimes confess himself without any test to mark off the voice of God within him from the suggestions of mere impulse. The rights of conscience easily became a cloak for a motley mass of motives. Selfish interests can scarcely ever be proved absent: and often the so-called intuitions of conscience are merely the reflexion of judgments current in the social stratum to which the individual belongs. And so far as the theory asserted that the individual soul had a sure light discerning moral good from evil, it stated what practice showed to be untrue. Individual man is no more infallible in moral than in other judgments: his isolated verdicts can no more be accepted as decrees in one case than in the other.

The advocates of the theory really had their eye on two points, not always in very close or necessary connexion with each other. The one was that moral good and evil are not arbitrary or esoteric distinctions, but rest upon a common and permanent element of human nature, and that therefore this fundamental nature, common to all men, must be able to detect their existence. The doctrine of an innate conscience was an asseveration that right and wrong are due to no metaphysical subtleties or scientific reasonings, and are derived from no merely historical facts, but are the very characteristic work of humanity, the seal and symbol of man's place in the universe. The second point was that in judgments upon human conduct, no less than in the processes which lead up to action, there is abundant room and frequent need for a tact or delicacy of discrimination, of an intuitive understanding, which does not admit of formulation in rules, and cannot support itself on strict syllogisms. The theory, in short, was an awkward recognition of one feature common to æsthetic with moral judgments. Art and the conduct of life require more than the powers of abstraction and analysis which are commonly held sufficient for science. For the great bulk of mankind the validity of their moral as of their æsthetic principles must depend, not on their scientific acquaintance with the principles of art and morals, but on constant familiarity and contact with great and good examples, on the generation in them of a moral and æsthetic

taste which instinctively recoils from evil and aspires to live with the fair and good. Both require a power of looking at things as a whole and in the concrete; because *ars longa, vita brevis est*—because the analysis of science lingers and conduct presses for decision.

While what precedes is more especially true of the moral sense, Conscience has a peculiar feature of great historical moment. And that is its reference to a moral law, and to the idea of duty. Conscience is described as the vice-gerent of God—the witness in man to a law which governs the moral world. The sense of duty is the recognition that every act, instead of standing alone, is confronted, as soon as it emerges into being, with the laws of a great spiritual kingdom, of which man, as a reasonable being, is a citizen, and to whose general aims and regulations he is bound to conform. It is this feeling of a higher and better world, of a truer self, which conscience bears evidence to. Here man finds a safeguard against petty claims, temporary perturbations, human weaknesses: here in the conception of a universe, to which every act must be relative and subordinate, the human soul seeks a law to limit its extravagances and to consolidate its efforts after right. But such a view of conscience found little support amongst English moralists.

Yet the theory of Conscience kept alive the truth that no act can count as moral which does not spring from the heart: that mere arguments are powerless in morals whatever they may avail in science: that in morals the soul must feel itself in immediate contact with and direct vision of goodness. It failed to show, however, that this immediacy of presence does not come without preparation. And of most applications of the term conscience it may be said, that the appeal to its authority is a protest of the party in possession, the *beati possidentes* in a man, against the new candidates for reception into his mind. Very early in the growth of consciousness in most men, the character settles into a condition of stable equilibrium, or of adaptation to the immediate environment. The mind becomes moulded in a stereotyped form which resists any attempt at modification. The reaction of this fixed self against new influences is what we call conscience. Hence, from the instinctive repugnance to anything strange to its old tone, its manifestations are chiefly in the way of negation and objection. In this attitude lies both its strength and its weakness. It is too apt to take a stranger for an enemy. Its true function is rather to warn than to judge: it notes discordance and inconsistency, and excites wakefulness: and the harmony to be secured may

occasionally come not by rejecting the new, but by showing that the stranger is only a friend in disguise.

Both of these schools were essentially products of a Protestant and critical age. The theory of Conscience neglected the supplementary doctrine that the Church in its catholic unity is the depository of truth, and that the whole body of the faithful must afford a corrective to the idiosyncrasies of the single believer. The critical theory of Utility forgot that in a creative and organic age much takes place which has not legitimated itself by registering its birth on the records of memory. Hence a reaction came against the somewhat theological hypothesis of a fixed conscience, with its dependence upon an abstract and impersonal law of duty, as well as against the dry and mechanical conception of utility, which neglected, or seemed to neglect, as unaccountable and absurd much that the finest sensibilities of mankind held dear. Men were weary of the excessive individualism which left men isolated in the universe subject only to the awful voice of duty on one hand or to the calculations of utility on the other. Human life was after all something in and for itself, —not merely a series of actions subservient to various uses, and not merely a table of examples intended to illustrate eternal laws.

The change in the conception of human life was heralded by a new tone in the poets. The moralising and didactic tone gave place to a freer and more catholic spirit which sought sympathy outside the region of propriety and had other ideals than improvement and edification. The very moral came to be the sign of limitation: the moralist stood in contrast to the concrete human being: and moral philosophy itself was replaced by Ethics as the more comprehensive term. The signs of the coming emancipation from the narrowing divisions which the religious and political schisms of the 16th and 17th centuries had branded into the very life of men were seen already in the years immediately antecedent to the French Revolution. The dawn of a humanity which was neither Church nor Dissent, neither monarchical nor anti-monarchical, was apparent both in the mild and hesitant accents of Cowper and in the fierier and more fitful utterances of Burns. But the new spirit scarcely gained articulate expression of its own aspirations and aims till the time of Wordsworth and Shelley. And even in them the old antithesis revived: and neither heard the full notes of the music of humanity. The echoes of ancient conscience reverberate through that world of nature where Wordsworth taught man

to be at home: the sentences of the moral law are written on the ancient hills; the birds sing and the flowers bloom to gladden, to purify and to strengthen the heart of man. And Shelley, with all his bright and passionate absorption in the life of clouds and skylarks, is haunted by the perplexing memory of the old struggle between the tyranny of ancient custom and the nascent rights of human tendernesses. For the fullest utterance of the change which was coming over men's minds we must go to Goethe, who, as he watched and waited through the phases of contest and victory, of vagary and resolute endeavour, between the old world and the new, seemed for the time to concentrate in himself and to mould in plastic outlines the sympathetic tide which was swelling and swaying through western Europe.

It was with a light heart that the enthusiastic generation which had grown up in the fostering airs of the Revolution went down into the open plain where the freedom of nature replaced the law of duty, and where the demand for utility was hushed in the presence of full enjoyment. They seemed to gain release from the toilsome restrictions of humanity,—an entrance into “an ampler ether, a diviner air”. The watchwords of the new school were Nature and Romance: at first the two seemed not inconsistent. The unity of existence was loudly affirmed against the old logical distinctions which had come to mean real separations. Man was to be studied not as unique, as isolated from the rest of creation, but as at best an elder brother in the grand family of animate nature. The line which had hitherto divided history from physics, ethics from physiology, was doomed to obliteration. The natural world was declared to have a history no less than the spiritual: laws, institutions, language and religion to have their growth as well as plants: to speak of the former as made by man to be as meaningless as to assert it of the latter. Here was reaction against the fancy that the forms encircling man's life are due to conscious ingenuity, and that by a bold stroke reversing the line of historical growth it was possible to carry men on vast lengths in the path of progress. It was felt that individual effort, even when in the hands of a lawgiver and wielding the force of an empire, was weak against nature and destiny. The gigantic forces directed by a Napoleon had shivered to pieces when they came directly into collision with the Olympian powers of Nationality.

Coming on the back of these impressions, the suggestion that man in his present condition represents the result of a struggle for existence, in which he has stood the brunt of the

battle better than his animal compeers, does not at first sight promise much help to a theory of ethics. The law which the process of life shows to be the prevailing lesson of nature is that weakness is the chief sin, and strength the chief virtue. The evolution of the forms of animate existence has been a silent but solemn discourse illustrating the various texts of the gospel of force; and any moral which can be inferred from the spectacle is the morality of egoism. Morality thus collapses in the single virtue of prudence, and self-regarding prudence. To help the weak, to relieve the suffering, to teach the ignorant, would be to run counter to the law of nature which leaves them to die. Intelligence, recognising the general tendency by which the less highly endowed abandon the field to their superiors, would conform man's action to this truth, and not attempt to alter the course of natural events.

Or, if the main emphasis were laid upon the apparently accidental character of the process by which the several interactions between cosmical circumstances and a germ of life lodged in some rudimentary organism slowly accumulated their effects to produce the man of to-day, a new intensity might be given to the fatalistic creed which treats man as the irresponsible product of the physical aggregate. Nature is then presented—not as a Goshen of romance and freedom, but as a prison where it is fruitless to knock against the bars:—as a compact structure where the inflexible chain of causation binds event to event. Consciousness, and with it the sense of freedom, is treated as a mere illusion, which plays upon the surface, but has no effect upon the movement of the machinery which drives on blindly until it has exhausted itself in final collapse. Man, like other things in the field of phenomena, cannot move except because something else has moved—or instead of saying that he acts, we should say that he has been acted upon. Or, in the words of a determinist of the pre-scientific period: “The man differs from the knife as the iron candlestick differs from the brass one: he has one more way of being acted upon. This additional way in man is motive: in the candlestick is magnetism.” Mind in short was treated as a name for certain occasional phenomena—no doubt somewhat unaccountable—which accompanied the natural processes; and it was denied other influence than that of interpreter between the social arrangements which had been the outcome of evolution, and the individual who found himself, by no act of his, planted in their midst.

Metaphysically, again, the idea of Evolution gave a new

aspect to the old quarrel between mechanical causation and teleology. It left no place for the theory of a conscious designer, an intelligent mind planning beforehand the course of the universe: but it emphasised more than ever the relativity of every detail in the universe to every other and to the whole. It set aside for ever the belief that man had been the constant aim of the providence of a utilitarian deity: but it taught that a boundless variety of phenomena naturally came upon examination to present themselves as the differentiation and development of a governing principle. Everywhere there was evidence of a power of rectification and self-adjustment in the universe: a universal *vis medicatrix naturae*. Even so-called inanimate matter seemed as if it must be conceived invested with some powers analogous to life, to will, perhaps to thought. Thus a principle of life—or a more elementary and comprehensive principle than life—(“*Wer darf ihn nennen? Und wer bekennen?*”)—keeps up perpetual correlation and sympathetic concurrence between the successive and coexistent constituents of the cosmic process. Mere juxtaposition and sequence are replaced by more intimate unity in the bosom of a potent totality. The consensus of functions and interdependence of parts were so patent in all provinces of nature that metaphysicians seized upon the hint to modernise their theories: and in Hartmann’s philosophy the waning speculation of Germany provided, under the title of the *Unconscious*, an ontological basis for the conceptions of the biologist. As consciousness had been driven from the field of adaptation, it was natural for those who looked upon mind as a late product of evolution, to introduce this picturesquely gloomy Power to give a sort of blind direction and unity to the process which made the wishes of individuals subserve the great interests of the kind.

Apart from these metaphysical inferences from the theory of Evolution, there were others more intimately related to ethics. Instead of fixed and absolute moral distinctions, it seemed to suggest a gradual process in the discovery of morality, a slow and intermittent emergence of moral conceptions, coming out into clearer outlines, and extending to applications at first undreamed of. Morality was evidently not the equipment of the primitive barbarian, but a growing and increasing ideal which was formed in humanity itself, and moulded itself upon the lines laid down by the requirements of society. Its fundamental fact was the sociality of man, and its development consisted in successive discoveries of the relationships which that fundamental fact in-

volved, and in laying bare the conditions of social well-being. At first these conditions were but roughly and sometimes even erroneously conceived. But as life grew more complex and of richer content, and as knowledge increased, the perception of these conditions revealed a greater number, and defined them with greater accuracy.

In these considerations it is tacitly implied that in ethics we have something specially human; a province as it were set apart from the general economy of nature. Within the charmed circle of a society, the struggle for existence was temporarily at least reduced to peace: though it still raged outside in the relations between different societies. On the day when man, from the needs of physical existence, was driven to combine with his fellows into a society, he turned his back upon nature, and laid the foundations of a new kingdom. The society at first had narrow limits, and was tainted by exclusiveness. But in its essential germ, it had the promise of great things. It had broken the ban of nature, which lays down self-seeking as its law. And this radical change in the attitude towards the problem of life is dependent upon the entrance of a new faculty upon the scene, the power of conscious intelligence. By its means there is formed the idea of a totality of which the individual is a member. He learns that he is not for himself, but for something which includes and dominates himself: an idea, at first somewhat confused with his own and other personal interests, but capable of being made more and more clear. The recognition of this dependence of the individual upon a permanent something in which he finds the central principle of his being is the characteristic note of morality. He has more ways than one of describing it. He may speak of it as the reason that is within him, the voice of conscience, the sense of duty, the subordination of the lower nature in man to the higher; his true self as opposed to the temporary instincts and changing phases which pass across his consciousness. Yet if it is himself, in another sense it is not himself: but something divine, and universal, a common humanity, an epiphany of the divine. Or, he may describe the bond of his allegiance as due to the social community, to the state, to the body politic. It is in the ordinances of the society that he finds the most tangible expression of conditions on which his life as a *human* being depends, the standard for repressing accidental and temporary aberrations. But these ordinances barely suffice to mark out the framework of such regulative: they vary from time to time and from community to community: they are not

wholly free from temptation to selfishness and truckling to one-sided impulses any more than the court of appeal in the individual. And hence in order to secure a safe and stable rule, beyond the disturbing influences of individual and particular selfishness, the standard is placed in the ideal self which is the far-off goal to which the whole creation moves, that self-subsisting unity which is conceived as the source of all our moral being and as the infinitely perfect life towards which the gradual enlightenment of humanity is a constant effort of approximation. From one point of view the moral progress of humanity is the gradual unveiling of God; just as from another it has been called a becoming like unto God.

But of these three points of view, which place the moral centre respectively in the reasonable self, in the social community, and in God, the last as it were keeps in the background as the ultimate arbiter, and does not enter as a factor into the process. He is the last judge, not the immediate referee: still less a party in the contest. He works through the two subordinate principles, his two visible representatives, the state and the individual reason: neither impeccable, and yet both indispensable. Through means of the community the selfish involution of the intellect is in part removed: there grows up by slow degrees the distinction between what is for individual interest and what is for the common weal. At first naturally with many drawbacks: for the common weal is readily identified with the interest of the stronger and dominant part of the community, and it is only gradually that these anomalies are discovered, and still more gradually that they are set right. And even when the inequalities within the state have been removed, they operate between different states, where particularism still has its place. Laws indeed to a certain extent hold good with some uniformity even beyond national and state limits: there are fundamental points of agreement, for example, between the civil and criminal codes of different countries. But political divisions keep up to a considerable degree the old inequality of special and private interests: and with these political divisions the religious often go hand in hand. All of these influences interfere with the full realisation of the true centre and universal source of human life; they prevent the revelation of the universality of human nature in a complete brotherhood of all men. If morality begins with the love of the brother whom we have seen, it culminates in the love of God whom we have not seen: if it begins with the recognition however imperfect of the

solidarity between man and man, in some limited degree, it must ascend to the recognition of a great brotherhood of all times and generations, an ideal and abiding foundation in which we live and move and have our being.

It is under the stimulus of sociality that the moral instincts are awakened. There is abundant evidence that the sense of duty, and the voice of conscience, owe their contents and even peculiarities of form to the medium in which they grow up. But the same may be said of intellectual and æsthetic judgments no less than of moral. It is under the influence of distinctions already fixed in language that the child perceives the individual objects of sense around him: he enters upon the inheritance of a classification that has been gradually made. And that classification itself was originally due to the co-operation of individual minds, correcting their inequalities and peculiarities. The development in every sphere of activity and culture is under the sanction and the control of the body politic. The individual movement is subject to the condition of recognising the common will or judgment as an essential element. No scientific proposition, for example, will dare to pretend independence of general assent from all who can understand it. But nobody would, therefore, assert that its authority is derived from the social acceptance which attends it. And so in morals. Here too, authority may lay down duties: and these derive their sanction from the force of the collective body:—just as certain pseudo-scientific dogmas derive it from the same power. But the moral obligations strictly so-called do not derive their authority from society, though the quasi-legal enforcement of those obligations is first exercised by society. Their moral character depends on the recognition by the reason of their essentiality to what is found to be the higher kind of life. They are arrived at through experience—social experience; but they pre-suppose a form or category—the legislative attitude and power of reason, which is filled up and realised in experience.

But while we recognise the essentiality of the social factor in every aspect of human development, it is needful to enter a protest against a tendency to hypostatise it into a separate power over against individual man. That there is antagonism between society and the individual is obvious. For, on one hand, the so-called society may really be an exclusive association of which the individual is not strictly speaking a member: its laws, to which he is subjected, are then the laws of an alien body. And, on another hand, the society represents an average of opinion from which the individual to a greater

or less extent diverges, and an accumulation of experience to which he has not attained. In the latter case, its action upon him is *pædagogic*: it exercises an educational function. Still even here the relation is that between the elder and the younger generation, between the majority and the minority. And while, during the one stage of life, the individuals are initiated into the existing laws or mysteries of the craft of the common life, in the other they are supposed to be active in carrying on these laws a step farther. The social laws, though they present themselves at first as antagonist to personal prejudice, are still the work of originaive individual wills which make themselves the spokesmen and leaders of their community. It is only because they present themselves as contrary to selfish wishes, and as accepted without distinct consciousness of their origin, that they seem to spring from a more than individual and even more than human source.

The work of moralisation does not stop short at adaptation to existing conditions: it is not merely an adjustment of the individual to the forms and laws which he finds prevailing. For the structural arrangement of society, and the consequent mould in which the conceptions of human life must present themselves, have been the work of accident; not the creation of free wills co-operating equally and fairly, but partially the effects of despotism and violence, of superstition and ignorance. The social organism which would give the basis of morality must be sought elsewhere than on earth: it lies, as Plato said, as a pattern in heaven. The consciousness of true unity and continuity between the individuals of a society was found (even in a nation otherwise headless and disunited) realised in the faith in the national gods, the powers who held ultimate sanction over the fabric of social materials, and in whom there was a shadow from the consuming fire of tyranny, and a shelter from the storm of anarchy. In actual forms of social union this consoling sense of the supremacy of right is scantily present; and, therefore, instead of assigning to the moralist the province of deducing the merit of the virtues from their power of contributing to the welfare of the social structure, it is well to note that the social fabric is the creation of individual agencies, that it is largely an object for correction and improvement, and above all that the social organism, when taken for the standard of ethics is an idea, and has yet to be carried out into fact.

The conception of the social organism is derived from the recent researches of biology. The microscope about half a century ago revealed the fact that animal and vegetable

bodies consisted of cells, each of which surrounded by its enclosing wall had an independent existence, whilst it was also conjoined with others into complex fabrics, or tissues, and thus helped to make up the several organs of the body. Here then was a structure apparently single which yet embraced within it a number of separate beings. And what was true of cells, was similarly true of the several organs. "We must look upon the body," say Virchow, "as an organism of many members, animated throughout: each of its parts works as part of a machine, and yet each of them at the same time has the life, the reason of its action in itself. Many lives are combined in one collective life: many separate existences with independent capacity of living and acting are placed in mutual interdependence." A hint was thus given for interpreting afresh the old analogy between the individual man and the social structure. Human beings were treated as cells in a social organism, as at once dependent and independent: the organism was supposed to have or be the collective intelligence which governed the actions of its elementary parts. An attempt was even made to find an analogue to the tissues in the new conception of a social organism: but the exponents of the doctrine are hardly agreed as to what this analogue precisely is. At any rate, there was a reversal in the old view: for the real life and central force of society was supposed to inhere in the collective body, and the individuals retained only a fragmentary existence.

It was admitted, indeed, that analogy would find the best parallel to the social organism in the lower forms of animal life, where each segment turns into a separate existence when divided from the parent. For it seems clear that in the social organism separation of a part does not imply the death of that part. And yet it is well not to be too dogmatic even on this point. A highly specialised element of the social organism would barely survive if he were deprived of his surroundings and left to pick up subsistence for himself. It is only certain parts of the social fabric which can maintain existence when severed from the parent. And in such a case we may compare the process to reproduction. The parent body can discharge from itself certain germinal forms which in the shape of a colony may preserve independent vitality. In a highly elaborated society, where differentiation of functions was carried far, not any part of the organism could serve to make a new and independent structure, but certainly some portions could. We have heard the story of the Gentleman and the Basket-maker.

But even with these admissions the view seems open to a

further criticism. Physiology tells us of the separate and in one sense isolated structures which co-exist in the body of a human being. But the unity of that body lies in the continuity of life and the feeling of personal identity. This unity is not in any way homogeneous or comparable with the division and separation of material parts. It is unaffected by any hypothesis which represents the united consciousness as a sum of the constituent consciousness of the parts, or as an illusory unification of the single consciousness of the several moments of life. Consciousness is in its very essence undivided: or rather it is itself unity and the force which keeps the divided in one. As we know it, consciousness is connected with individually concrete human beings. A natural tendency prompts us to presuppose a similar principle of unity wherever we find a harmonious adjustment of part with part, similar to our own case. But in this transference we are liable to error. We are apt to suppose a sort of material unity like that which is exhibited in our own living organism. We find a unity in the social structure as it stands in quasi-materialised form before us. In reality, the social organism of which we speak is a stage of consciousness which we do not reach or recognise without an effort. From another point of view it may be called a generalisation from the actual associations—family, church, state,—which we find around us: a something which though in general characters resembling them yet at the same time comprehends them all. As such it exists nowhere: glimpses of it are to be found everywhere: but the full reality has no concrete manifestation.

The body of the social organism is a spiritual body: it exists in thought, and can only be realised as an idea. It is in the first instance a creation of the mind, which no doubt proceeds to give such realisation in concrete form as it can, by the fuller organisation of society. But after all the performance falls sadly short of the reality: we find only fragments and have to construct from them a whole. And further it is from the individual consciousness that the centre of unity comes: that is the true source of life which goes on extending its range of influence, strengthened no doubt by the co-operation of other individual consciousnesses till it spreads abroad in a boundless life, which may be called divine. What happens is not that the individual surrenders himself to an outside comprehensive will, but that he gradually learns to lay aside the isolating attachments which kept him apart, and discovers that he and others are really one. Moral life is not the work of a bureaucracy which transmits

to individuals the orders and dispositions of the central authority of the social organism, but is the spontaneous co-operation of individuals, enlightened by experience and education, towards the harmonisation of human action, the removal of inconsistencies and unnecessary collisions from the path of progress.

The social organism, therefore, is an inappropriate name for an ideal unity. Literally taken it is a fiction. Science working with terms like these is barely in a fit position to throw stones at the Realists of the Middle Ages. A social organism, with its organs and tissues, is a mere abstraction, formed by the help of analogy, and though it may occasionally be useful as a corrective to impatient reformers who believe that they can modify the individual quite apart from his environment, it is out of place as a governing principle of ethics. The true value of the social organism is rather to emphasise the need of studying the moral environment of man. This environment he partly finds around him, he partly helps to make or modify it. But man morally as well as physically has great liberty of choice and change in that environment: he can rise out of it, he can turn his back upon it, and adopt a new social atmosphere, to some extent, of his own. When the voice of the social environment comes to him, with its "They say": his "What say they?" is accompanied by "Let them say". The social environment is not to be identified with a social organism.

Those who use such terms must at the same time admit the double-edged nature of their tools. In the conception of an organism, the independence and originality of the parts from one point of view must be set against their dependent and derivative place in the whole: and the supremacy of the totality must not let us lose sight of the priority of its constituent elements. Otherwise we fall into the confusions which attend the unwary employment of relative abstractions. A thorough metaphysical analysis of the conception of whole and parts must be followed up by a theory of the implications of organic and of ideal unity. It is in such analyses that Hegel rightly placed the fundamental problem of philosophy. But to those who have learned on approved authority that Hegelianism is a worthless figment of arbitrary constructiveness, it is more convenient to conjure with quasi-real and quasi-scientific phrases. The collective will of a social organism is a phrase which slurs over incompatibilities which baffle reconciliation and processes which cannot be easily traced. Yet the collective action only lumps the resultants of a complex group of

actions and reactions of individual wills. It is because our intellectual mechanics fails to calculate the result from the partial effects, and cannot estimate the forces of sympathy and antagonism, that we allow the collective body an influence distinct from the actions of the component units, plus their reactions upon each other.

The phrase social organism, as used to denote the subordination of individuals to their social aggregate and the centralisation of their life and action in the system of this aggregate, is scarcely adequate to represent the ideal character of the principle which underlies and controls the actions of individuals. The action of a society is always describable as a function or peculiarly-constituted compound of the actions of individuals. The only real agents in the process are human individuals. It is in the individual human consciousness that the process of ethics is transacted: the action of soul upon soul takes place only indirectly, through the medium of physical agencies. By the aggregate of these physical agencies, or external goods—such as human bodies, land, machinery, railways, churches, factories, policemen,—the communication between human souls is in various degrees facilitated: and as the fact that they have been so constituted by human needs gives the aggregate a certain unity and interdependence, we may call the whole fabric a social organism, and allow that in the study of it men and women are as much parts of it as the machinery in the mills, or the gold in the banks. For the purposes of ethics, however, the important point is to remember that man, though he builds himself as a stone in this structure, is also and always the builder and even the architect.

Only man builds in two senses. In one sense he builds as the ants do in the ant-hill, or as the coral insects on their rock. His works are ushered into being with the same blindness to ends, with the same unintentionality, which marks the processes of organic nature. Before he has time to reflect, he is forced into action, and the consequences of his action bind him for the future. In his case, as in the rest of nature, the powers and aptitudes he possesses tend to form orderly systems. But this adaptation comes slowly and at much cost. Intelligence steps in to abbreviate the process. It brings into close connexion what previously was merely coexistent: it builds up the several elements into unity, and thus prepares the way for exclusion of heterogeneous and inconsistent elements. When man can thus construct a plan or scheme in which his works may form a part, he works in another and a peculiarly human way. He

is guided by ideas. To them institutions and associations minister constructive material. In consciousness the details of a social organism are invested with a totality which they did not have in their actual and temporal existence. In the so-called real world of space and time, in the sense-world, that organism nowhere exists full and developed: the organism of the ethical idea has its reality from the reason. The unifying systematising power of reason is that light which never was on sea or land,—it is the consecration which thought gives to the world. In the sensuous reality we see one thing and we see another: but it is mind which places causation, which with increasing energy traces connexions between what time and place have separated, and refers them to a governing unity. Such governing unity of the existing materials and forces—the unity which the vulgar eye, engrossed and absorbed in its own special range, fails to recognise—is what is called an idea. As the very truth of the particulars from which it emerges, it serves by its very contrast with the fragments as they exist to suggest reforms to fill up the gaps.

To discover this unity is the discovery of the true self. It involves an act which may be variously described as abstraction, as reflection, as self-knowledge. The mind has to detach itself from its temporary and accidental individuality and to lift itself into its universal element. Intelligence, in order to be free and conscious, so as to act with originative force, must withdraw back from and carry itself beyond its embodiment in concrete interests. The soul that is to discern the true spirit of the times, the real possibilities of action, must retire for a while from the stage of life. The real freedom of will—the power of absolute initiative—must be purchased by self-renunciation. The gift of inspiration—which is but another name for the liberation of intelligence from its sensual bonds—comes to those and only to those who have the heart to isolate themselves from the sweep of the current, and who survey the mystery of life from some vantage ground of speculation. The soul which is to become an agent and not a mere vehicle in the career of human affairs must retire into the desert. Such withdrawal is typified in the “four times seven days” during which the Buddha remained fasting under the tree of knowledge, “enjoying the blessedness of redemption,” before he went and preached his new gospel at Benares. It is typified no less in the marvellous detachment of Socrates in the midst of the social and political activity of Athens.

The dawn of morality was the moment in the life of an

individual when he saw that his own selfish interests were not the whole substance of his life. The perception probably came from some shock when one whose life had been closely bound up with his own had passed away, and he felt that the nobler part of himself had gone, and that he had failed to recognise before the grave his full fellowship with the departed. For death has been at many times the revealer of a tie which the jars and distractions of life kept out of sight. At such seasons in domestic life when reflection is aroused, the whole institution of domesticity rises up in consciousness with full and vivid outlines which startle the careless *habitués* of the social structure. It is no longer a mere bundle of precise duties, of details going to make up the tale of a contract, no limited specification of points in which certain things are expected and required. On the contrary the institution becomes "an image of the mighty world": it claims to be felt in every field of activity, to be the focus towards which all action converges. On a larger scale other associations carry out the same process. They realise in various degrees the unity of human kind: making the individuals no longer outside each other, in animal independence (*more feræ*), but members of a common being, dependent on a common life, united by practice which follows their faith in an idea,—an idea which is not seen, and yet supports the conduct of those who "live by admiration, hope and love". Thus in many ways, not less in the lesser circles of social brotherhood than in those greater but yet imperfect unities known as states and churches, man becomes moral, not by the mere aggregation which drifts him into these associations, but by the translation of them into ideas, principles of universal significance, watchwords for which life is to be spent and death faced ungrudgingly.

Yet all ideas embodied in institutions are limited by their range: the simplest and purest associations for common aims look coldly on the Gentiles outside: they generate new and subtler selfishness which hides its unsightliness under the guise of an angel of light. Even on the heights of moral grandeur, where devotion to an idea becomes sublime and pathetic, the old enemy of the soul can whisper, "Ye shall be as gods," and snatch away from high achievement the gracious beauty of unselfish surrender. Asceticism, which checks the cravings of the sensuous nature, leaves open the door for spiritual vanity and worship of the individual soul: and benevolence, which bestows its goods to feed the poor, may yet want the spirit of perfect love. Ever must the idea be revived, in wakefulness and recollec-

tion, of the one ideal and universal state which is also the one universal church; ever, "faith become a passionate intuition" that the Son of Man is also the Son of God, the heir of infinite aspirations, which cannot be realised fully in anything short of universal brotherhood, and in the ultimate conformity of actions to the true reasonable life of collective humanity.

Thus, if man is the portion of a system, with his place and duties dependent upon his position, he is also the creator of the organisation: and it is in his individual consciousness that the dry bones of legal and social rules gain the power of an organic and organising idea. He is not a mere blank sheet on which society imprints the texts which expound its interests. Too often indeed man does little but reflect his environment: and orthodox authority has many means for securing his conformity. And for the average human being the sense of social sympathy when he acts in the general interest is a useful criterion of conduct. But even then, the individual helps to make the verdict to which he conforms: he is in part creator of the social standard. And in other cases the individual may lead the society after him—especially when they see that he is free from selfish motive and has the clear vision of reality. There are times when the individual must set social decisions aside. There is an honour in the eyes of society which stands rooted in dishonour: a social sanction which ought to be withstood. The individual appeals from the society which is, to the society which he sees by the eye of faith, ready to be revealed: the sturdy independent, if his independence is founded upon insight, comes to lay the basis of a new social code: and even the blood of the martyrs certifies the growth of the church. Always the social code requires—if progress is to be the law of life, and if ethics as the science of ideals is to survive—to be extended and perfected by continued discoveries in the immense range of those conditions of true human life, wherein lies the infinite problem for human faculties.

The province of ethics thus divides into two departments. On the one hand, there is the theory of individual man, first, on his natural side, as a subject of psychological investigation, as a creature of sense and emotion and desire: and, secondly, as a reason, with the faculty of ideas and ideals. The theory of knowledge, of its conditions and the evidence they bear to a unity of principle underlying even the senses and feelings,—the doctrine of reason, as the ultimate former of emotion and shaper of action, constitutes what we may call the

logical and metaphysical side of ethics. On the other hand, ethics has to confront the phenomena of society, economical, juridical, and religious,—to examine the relations of the individual to the various forms of social organisation,—to emphasise the priority of the human idea in its totality to the fractional aspects under which it appears in the industrial world, in politics, in churches, and in the pursuit of science. No precise line can be drawn separating the sphere of ethics from that of law or of religion. The moral nature of man is the ultimate standard both for the jurist and the theologian.

When I thus define in two directions the province of ethics, I am reminded of one whom friendship would not otherwise allow me to forget. My predecessor needs no eulogy. But we all need encouragement and light from those who have gone before us on a way which we also must walk. And there are constant temptations to simplify the work of life by shutting the eyes to everything that lies outside one clear and single duty. It is a great thing to have the example of him who did not find it inconsistent with strenuous and profound investigation of those so-called abstract principles, on which rests the very possibility of morality itself, to give earnest and sympathetic attention to all the social movements in which ethical force shows itself, and to do what in him lay to render the idea of human brotherhood a reality. And even for those who could not occupy his theoretical standpoint or find themselves in harmony with the special directions of his work, there is the lesson suggested that this is no time to sit down mourning for an imaginary past, but a period in which the academic association must realise, actually and actively, its *raison d'être* in serving the moral, intellectual, and religious development of the nation and the world. It is well occasionally to look back with grateful affection to the great traditions of our past. It is even more needful to prepare ourselves to take a worthy part in moulding the age to come: solicitous that by the full measure of our abilities, unbiassed by merely scholastic interests, the Oxford of the new generation may be not perhaps more learned or more dignified, but wiser in discerning the main line of public good, readier to co-operate in the movement towards making life beautiful, true and honest, and more generously zealous to become to England without distinction of rank or sect a high court of intellectual and moral justice.

W. WALLACE.

VI.—NOTES AND DISCUSSIONS.

MR. H. SIDGWICK ON THE CRITICAL PHILOSOPHY.

A review by Mr. Sidgwick of any philosophical doctrine is sure to contain much of interest for its adherents. His objections, even when directed from the point of view of an outsider, may be taken as fairly indicating some weakness in, or imperfect statement of, the doctrine. In *MIND* XXIX., he lays before us the first instalment of a comprehensive criticism of the Kantian theory, and those who think that the most valuable philosophic training is to be obtained by the earnest study of that theory, will have an opportunity of judging how a candid inquirer, of independent view, estimates its worth. The introductory article, it is true, does not carry the criticism to the heart of the problem, but it deals with some isolated points of interest and gives a foretaste of the general spirit with which the criticism is animated.

Perhaps it may be allowed to me to say that Mr. Sidgwick's position, so far as can be judged from the article referred to, albeit that of an outsider, seems hardly that of the 'impartial spectator'. Throughout there is a tone of only half-concealed irritation or impatience, evidenced in the ironical compliments to the mis-called "Neo-Kantians"; in the captious remarks on criticism with its small "c"; in the dogmatic utterance respecting Kant's appreciation of his English predecessors; and in the remarkable strength of the epithets applied to some of Kant's positions. At the same time there appears to underlie the whole review a much more definite conception of philosophy generally and of some particular philosophical notions than is compatible with perfect fairness of treatment. The demand that a philosophical analysis of knowledge shall make good its data, its mode of procedure from them and therefore its results, though on the surface formal, may readily and in this case does probably cover a somewhat developed fundamental view. Perhaps it is the presence of some such view that gives to certain statements of Mr. Sidgwick a curiously old-fashioned air. Some criterion is applied the nature of which is not evident on the surface. I am much struck, in this connexion, with Mr. Sidgwick's easy fashion of using and interpreting the data of Common Sense.

Applying his demand regarding the form of a philosophy, Mr. Sidgwick asks what knowledge is accepted by Kant as the pre-supposition or groundwork of his investigation into the conditions of knowledge. The answer to this being pure mathematics and theoretical physics, so far at least as their fundamental notions are concerned, Mr. Sidgwick, censuring the "Neo-Kantians" for their negligence in omitting to examine the significance of such assumption, proceeds to inquire into its validity. It is with this

portion of the article that it seems possible to deal in isolation; all the rest, with the possible exception of the critical comments on Kant's arguments respecting Space, is preliminary to the future treatment of the central doctrines.

The argument with respect to these mathematical and physical principles is briefly that Kant's acceptance of them as a basis is illegitimate and inconsistent: for (1) no reason can be given why they should be assumed without inquiry while the notions of theoretical metaphysics are rejected; (2) no valid proof of the principles is possible on the Kantian ground; (3) if their truth be assumed as a matter of Common Sense, Kant contradicts his own contemptuous declarations regarding that philosophic resource, and is, by other doctrines of his own, cut off from its aid. Discussion of these points is rendered very difficult by reason of the ambiguous character of the terms which are, perhaps of necessity, employed by Mr. Sidgwick. "Proved," "valid," and the like, are terms about the significance of which one might argue *ad infinitum*, and in respect to Kant's doctrine regarding mathematics there is a special and additional source of ambiguity. To *prove* the validity of the mathematical notions might mean not only to show that these notions have evidence in themselves, that fruitful deductions from them are possible, and that their validity is taken as extending beyond the empirical observations of the thinker who employs them, but to show how such peculiarities are possible. I cannot avoid the reflection that Mr. Sidgwick demands from Kant that as a preliminary for his analysis of experience he shall assume its very results, that acceptance of mathematical notions shall depend upon adequate insight into the grounds of their possibility. Kant's position appears to me sufficiently simple. He takes as empirical marks of mathematical notions, universality and necessity, and no theory respecting the ground of the said marks will alter the nature of the acceptance of them. Apparently Mr. Sidgwick thinks that universality—to take the more patent example—must be based either on absolutely exhaustive survey, or on a theory which shall prove the right to accept part for the whole; from which it follows that, as the first course is impracticable, and the second is the result of the philosophic analysis, universality cannot be assumed at the outset. It appears to me, however, that Kant is right in claiming insight into universality as not merely a quantitative aggregate of separate experiences, but as a qualitative appreciation of the character of the facts experienced. Whatever theory be adopted, the acceptance of such notions as valid for a special order of facts will not be affected; and as mere matter of history, we know that Kant held the same view regarding mathematical notions in conjunction with two quite distinct theories of their possibility.

Mr. Sidgwick's remarks with regard to the rejection of metaphysical notions by Kant do not seem warranted by anything Kant has said. Kant discredits them on the ground that fruitful appli-

cation of mathematical and physical universals has been made, while no such result has followed in the case of metaphysical notions; but all three are placed on the same footing when an inquiry into the grounds of their possibility is undertaken. Moreover, the criterion, which, as the *result* of the inquiry, is applied to distinguish metaphysical from mathematico-scientific notions, does not bear upon the conceptual evidence or even self-evidence of these principles, but on the possibility of realising them in experience. In other words, the theorems of metaphysics are not proved false, but unreal.

Mr. Sidgwick, however, thinks that the criterion is in itself insufficient, and accordingly enters on a somewhat elaborate examination of Kant's theory of mathematical evidence. I find it difficult to follow the reasoning; for Mr. Sidgwick seems to me to overlook certain characteristic features of Kant's method, *e.g.*, the distinction between notion and intuition, and the intermediate place occupied by the schema. It follows from the first that we are not to identify truth and reality; from the second, that we are not to regard the realisation of a rule of construction as a perceived fact. The schema is at once concrete and individual, and yet not an empirical fact, a matter of observation. Perhaps it is because Mr. Sidgwick regards the mathematical intuition as a single, definite *object*, and not as a schema, that he is so astounded and indignant at Kant's expressions in regard to Algebraic processes. He evidently thinks that the *intuition* required by Kant is to be found only in the letters and signs of operation by which these processes are represented. Kant's brief expressions are sufficiently careless, but they are only directed towards the statement, that the intuitive character of all generation of quantities is additionally evidenced by the fact that where the intuition is not a *quantum* but *quantitas* generally, we nevertheless preserve the reference to intuition by employing signs of operations in intuition, signs for subtracting, equating and the like. These symbols are not, as in the case of geometrical schemata, resembling specimens, but representations of general rules of construction in intuition. I can hardly think that Mr. Sidgwick is serious in supposing that it is only because we write algebraic symbols on paper that algebraic processes are assimilated by Kant to geometrical. Mr. Sidgwick appears to hold that algebraic reasoning is distinguished from reasoning in abstract, *i.e.*, from analysis of notions, simply by superior definiteness of the conceptions. I think he will probably find that the definiteness of conception here implies reference to intuition, although a "concrete and individual" image need not be present. Surely Mr. Sidgwick would not suppose that reasoning about a triangle is *in concreto* while reasoning about a chiliagon is *in abstracto*. If so, he has misconstrued a fundamental Kantian distinction.

Supplementary arguments are added respecting Arithmetic and its synthetical character. With respect to one of these (p. 79), it may be remarked that, even though time be involved in the

elementary process on which counting is based, it does not follow that the notion of time should present itself as an integral part of each arithmetical quantity. It is always we who count and yet the notion of ourselves is not part of each arithmetical notion. The other argument is a repetition of an old discussion respecting the well known $7 + 5 = 12$. Mr. Sidgwick thinks this not synthetical, on the ground that $7 + 5 = 12$ is deducible from $12 = 7 + 5$, that this again is deducible from strictly analytical propositions by reversing the statement of the generation of numbers up to 12, and adding the axiom, itself analytical, that a whole is equal to the sum of its parts "taken in any order". On all this it is sufficient to say that the difference of view rests upon overlooking the reference to intuition which is for Kant the mark of a synthetical proposition, that reversal of the series of numbers is only possible on ground of the previous series of syntheses by which they have been generated, and that an axiom which explicitly contains the mark of intuition—"taken in any order"—can hardly be declared analytical in Kant's sense of that term. The whole matter of this proposition is well discussed in the older books on Kant and in Riehl, whose treatment is very careful.

Turning then to the universals of physical science, Mr. Sidgwick finds that these are accepted by Kant, apparently on the ground that experience confirms them. But according to this very Kant, experience cannot prove such statements, and if they are taken as dictates of Common Sense, it is forgotten that many philosophers have questioned their validity. Here we have the old ambiguity regarding the term *prove*. Kant's position, I take it, was a very simple one. He finds that in all scientific investigation, in every experiment or observation, certain rules are implied, of scope such that comparison of individual cases cannot be accepted as their basis, and by means of which progress in knowledge is made. The existence of such principles calls for a theory of knowledge which shall offer some explanation, positive or negative, of their ground. The 'safety and certainty' of the physical principles is the condition of no proposition in the theory of knowledge itself.

As to the remaining argument, bringing Kant's expressions before the bar of Common Sense, it has not to my mind any special pertinence. I cannot speak so unhesitatingly as Mr. Sidgwick does regarding Common Sense, which as a rule is wholly unaware of the significance of its own dicta and therefore liable to a distracting diversity of interpretation. In philosophical matters, it probably signifies the sum of what a thinker takes to be true, without being able to render a reason therefor.

It is only right to add that Mr. Sidgwick most fully acknowledges that the central doctrines of the *Kritik* are not dependent on the acceptance, in one sense or another, of these mathematical and physical principles. His discussion of them, therefore, stands on its own ground, and is to be taken as a mere criticism

of Kant's power of dealing with isolated questions. In themselves they appear to me to have only historical importance, and I cannot but think that "Neo-Kantians," as Mr. Sidgwick insists on calling them, do well not to embrace the exposition of Kant's 'new way of ideas' with an extensive discussion, the very significance of which only becomes apparent in the course of working out the 'new way'. A thinker rarely starts from the logical ground of his theory, and it is, moreover, the very peculiarity of philosophy that it does and must return upon its presuppositions and infuse into them a new significance.

R. ADAMSON.

KANT'S THEORY OF MATHEMATICS.

Though it is usual to allow a critic to complete his criticisms before offering any comment on them, I ask permission to depart from this course as regards one point in Mr. Sidgwick's "Criticism of the Critical Philosophy" in *MIND* XXIX., for two reasons: first, because Mr. Sidgwick may perhaps be able to clear up my difficulties before the conclusion of his series of papers; and, secondly, because it seems to me to be of the utmost importance to Philosophy—especially when the Kantian Philosophy is under discussion—that the true nature of Mathematics and Mathematical reasoning should be understood.

Mr. Sidgwick substantially accepts Kant's views as regards Geometry. He differs from the great Critic as regards Arithmetic and Algebra, which are two branches of the Science of Number but which evidently do not exhaust that science though Kant has not in terms referred to Trigonometry, the Differential Calculus, &c. Mr. Sidgwick's objections to the Kantian theory of the Science of Number appear to be two: (1) that the symbolic construction of concepts in Algebra is not essentially different from the symbolic construction of concepts by means of verbal or written signs in Philosophy; and (2) that Arithmetic does not contain synthetical judgments as Geometry does.

To take the last of these objections first, Kant was not bound to prove that $7 + 5 = 12$ is a synthetical judgment. He admits that there are analytical judgments in Arithmetic and Algebra, and if he made a blunder in selecting an example of a synthetical judgment it does not affect his general theory. I do not indeed admit the blunder; but if the existence of synthetical judgments in the Science of Number must be conceded, the question as regards $7 + 5 = 12$ is hardly worth debating. Will Mr. Sidgwick maintain that such propositions as $ab = ba$ (or, in its arithmetical expression, in multiplication it is indifferent which number we take as multiplicand and which as multiplier), Newton's Binomial Theorem, Taylor's Theorem or De Moivre's Theorem are analytical propositions? Or that though they are themselves

synthetical judgments they are deduced by strict logical processes from analytical judgments? Neither of these positions appears to me to be tenable: and if they are not, we must concede the existence of unproved synthetical judgments in the Science of Number; in which case, if that science possesses absolute certainty, these judgments must be absolutely certain although unproved. Granting this, the precise number of such judgments is of little consequence.

Returning now to the former question, Mr. Sidgwick thinks the Algebraist "can no more bring his reasonings '*vor Augen*' by the simple expedient of writing down his x 's and y 's, his + and his -, than the Philosopher can by similarly writing down his philosophical terms with verbs, conjunctions, &c., appertaining". I rather apprehend Kant's meaning to be that though the x 's and y 's are only symbolical representatives of quantity, their relations are exhibited in intuition and that, so long as we are dealing with these relations only, our processes can be verified by intuition. The distinction is not so much in the writing down of the symbols as in the processes which we perform on them when they are written down. If I sought to expand $(a + b + c + d)^3$ by a mere calculation in my head, I might easily forget or overlook one of the terms when making my final tot, but this error is almost excluded when the characters stand out before me on paper. Nothing similar to this occurs in Philosophy. The relations of the World, the Soul, and God cannot be exhibited in intuition, and in fact (according to Kant) cannot be discovered at all. Let me add that even the working out of an algebraic development in one's head does not seem to be a merely logical process. It involves actual multiplication and addition, the symbols being present to imagination if not to sense.

I confess, however, that I am not quite satisfied with this explanation, and the proof of the identity of the geometric and algebraic processes which seems to me almost conclusive, is an indirect one. It is that which is afforded by what is called Analytic Geometry (the term analytic being used in a sense quite distinct from the Kantian) and also by Trigonometry, in both which sciences we frequently discover new geometrical truths by purely algebraic processes. It is true indeed that certain synthetical propositions must be assumed from Geometry as the basis of each of these sciences. We cannot prove that the equation $ax + by + c = 0$ represents a right line without assuming that in similar (that is, mutually equiangular) triangles the corresponding sides are proportional, and also that the three angles of any plane triangle are equal to two right angles. And the very same geometrical propositions must be assumed in order to show that $\sin \theta$ or $\tan \theta$ is a constant quantity while another well-known geometrical theorem proves the fundamental proposition that $\sin^2 \theta + \cos^2 \theta = 1$. But though this is true, it seems to me equally clear that we cannot regard all the results of Analytic Geometry and Trigonometry as

mere logical inferences from the geometrical propositions thus assumed. If it were so, the introduction of algebraic symbols and algebraic processes would be a mere roundabout way of drawing inferences from geometrical premisses: whereas in point of fact new theorems have been established in this way which the mere geometer or mere logician is still unable to verify.¹ I have indeed maintained that new truths may be discovered by mere (deductive) logic, for a man may happen to put together two synthetic premisses which had never been thought of in conjunction before, and thus arrive at a really new conclusion. But I think all who have studied the nature of pure (deductive) logic will admit that the synthetical conclusions which can be drawn by syllogism or sorites from a limited number of synthetical premisses is likewise limited, and that their number cannot be really added to by the introduction of any number of analytical premisses. If this be conceded, it must also be admitted that both Analytic Geometry and Trigonometry contain a mass of synthetical conclusions which cannot possibly be explained as mere logical inferences from the synthetical judgments originally borrowed from Geometry. Is there anything analogous to this in Philosophy? Have we any means except mere reasoning for deriving conclusions from our original premisses? And have we any original synthetical premisses to start from? These are questions which must be answered by every one who seeks to assimilate the method of Philosophy to that of Algebra; and he can hardly excuse himself from answering them even if he can show that Kant did not draw the true distinction between the two methods. Kant's conclusion may still be perfectly correct, *viz.*, that the Mathematical method (in all its forms) is inapplicable to Philosophy, and that the indefinite progress which we are able to make in the Mathematical Sciences affords no evidence of our ability to make a corresponding progress—or any progress—in Philosophy. We all know that many accomplished mathematicians are very poor reasoners, while an able logician unaccustomed to mathematical processes, though well aware of all the first principles assumed in Euclid or Algebra, would almost certainly fail to discover or even to prove many well-known geometrical and algebraic theorems. These facts seem to me sufficient to show that the

¹ Sometimes every step of the algebraic process can be translated into a corresponding geometrical process, and the algebraic result is thus attained by a corresponding geometrical one. At other times this is not the case, and the processes though ending in the same result are apparently quite distinct, whereas, in merely logical processes there seems to be but one mode of reaching the same conclusion from the same premisses. The extent to which algebraic considerations have entered into geometry may be inferred when I believe I can safely challenge any one to answer the following question by *pure* geometry:—Given the three sides of a triangle, what is its area? And when the algebraic process involves any power higher than the cube, geometrical representation becomes impossible.

Mathematical Method is distinct from the Logical, and does not consist of pure reasoning. And is any other than the Logical Method applicable in Philosophy? I wait for an answer.

W. H. S. MONCK.

IS SELF-SACRIFICE AN ENIGMA?

I am venturing to offer a few remarks on a very old subject. It is not that I have anything fresh to say, but I should like once again to point out a very common and injurious mistake. Mr. Leslie Stephen, in his *Science of Ethics*, has spoken of the association between misery and virtue, and of the general existence of vice and suffering, as a puzzle and an enigma. I should be sorry to appear anxious to weaken the authority of Mr. Stephen's views, since in the main I sympathise with them, and in some of them I even permit myself to feel a personal interest. On the contrary, it is because I believe rash assertions about evil to be fatal to the cause which we both have at heart, and which I may call the *liberation* of Moral Philosophy, that I wish to submit some rather obvious reflections.

When I say that I deny that there is any mystery or puzzle or enigma of any kind which attaches itself to the general existence of suffering and crime, or is involved in the misery of virtuous failure and in the reality of self-sacrifice—I may appear in the light of a presumptuous dogmatist. But my object is to point out that dogmatism and presumption belong to the man who proclaims the enigma, much rather than to myself who deny it. For the assertor does not mean merely that evil is a fact which, like other facts, in the end is inexplicable, and so is a mystery. He must mean that evil is *especially* puzzling, and he implies by consequence that he has some reason which would lead him to expect the absence of this evil. For surely if, like myself, he knew of nothing whatever which conflicted in his mind with the presence of evil, then, like myself, he would cease to find any special mystery in the matter.

Well, if so, the difference between him and myself is that, aware or unaware, he commits himself to a statement which I find to transcend the powers of my understanding; and the question is whether I am obstinately blind or he presumptuously dogmatic. I naturally am forced to adopt the latter view.

Why should evil *not* exist, and why should *not* this or that virtuous man be wretched? You may say that it conflicts with a moral government of the Universe. But, if so, you *assume* this moral government of the universe, and (I must be allowed to add) you assume *very much more*. For you feel that self-sacrifice involves injustice, and that a Moral Governor would not be so unjust. But here you quite forget that justice is one duty amongst other duties, and that a Divine Ruler, like his human

counterparts, might at times find a duty which overrides bare justice. Thus, assuming that the Universe is morally governed, you assume besides that the rule of justice can have no possible exception in favour of another and a higher duty. These assumptions are assuredly not so self-evident that to deny them should entail the charge of presumption.

But I shall be told that the Governor of the Universe is *omnipotent*. Perhaps; but, as I could never find out what that means, I can hardly be expected to admit it as true.

If however the person who finds evil so puzzling, is willing to give up the Moral Governor who never can be more than barely just, I do not see after this how he will succeed in defending his puzzle any longer.

He may say: But all evil, and with it self-sacrifice, are surely undesirable. Yes, perhaps so, I reply; but do you dare to assume that the desirable must be real and the real desirable, and that, if I hesitate to follow, I am presumptuously diffident? And, suppose that I do follow and do assume with you that the desirable must be real, then how am I to know that pain, crime, and self-sacrifice are really undesirable? I do not see how to affirm this, unless I am prepared to say that the world as it stands is worse than nothing, or unless again I have reason to judge that another world, better and more desirable than ours, really is a possible alternative. But for myself I do not possess such knowledge. For anything that I can tell, every possible alternative (if any alternative is possible) might turn out in the end to be *less* desirable. Of course, if you know better, you are right in speaking otherwise; but I should be glad to be shown the foundation of your knowledge. If you wish me to agree that a change in the character of our world is really desirable, you must show me first that the change is possible, and next that it would not bring on some other alteration which we all should regret. And I think I may say that you will not find it easy to perform this task.

And, if I am further pressed with the objection: But possible or not possible, desirable or undesirable, you can fancy a change that you do desire; then I answer: Yes, I can fancy a great deal, spring without winter, eternal youth, and the first flush of passion always at its height. But how can I desire these unless for the moment at least they seem possible, and possible without an overbalancing result of loss and misery? And is this seeming possibility anything better than an illusion? Are you prepared to make our irrational fancies the measure of the Universe? If so, you may be right, but once more I must ask to be excused from following you.

Of course I, like other men, do look upon evil as something which, we may say truly, *ought* not to exist; but then I try to find out what I mean by this phrase. What I mean is first of all that human wills *ought* with all their strength to endeavour generally

to make evil non-existent. And in the second place I mean that it is *one* of our special duties (though not our sole duty, nor even our chief duty) to aim at the putting an end to injustice and to the possibility of self-sacrifice. In this sense we may say that, from a moral point of view, evil and with it self-sacrificing virtue are both undesirable; we must look on them as things which ought not to be. And so far we are agreed. But if you then propose to rush straight away from this moral duty of finite beings to the general nature of the Universe as a whole, if you find courage to assume that *our* moral struggle is in the Universe a rent and a conflict—a conflict which we have reason to think cannot really be there, and so find puzzling—well, if so, I admit that you have justified your enigma, but you must allow me to add that the limits of my intellect seem no limits to yours. You seem first of all to know that the whole is a harmony, and then to be sure that the presence of anything that to us seems a discord must of necessity make that whole discordant. I admire, but cannot follow you.

I am afraid that, when some readers hear a poor 'ontologist' like myself uttering warning cries about the limits of our knowledge, they will think of Satan mighty in the Scriptures or rebuking sin. And yet I feel bound to submit to their attention that very rule which first made me an ontologist, still keeps and will keep me one: *Where you find a puzzle you are making an assumption, and it is your duty to find out what that assumption is.*

F. H. BRADLEY.

MR. H. SPENCER'S CLASSIFICATION OF COGNITIONS.

The works of Mr. Herbert Spencer have probably aroused more opposition and elicited more criticism than those of any other living writer. The great majority of Mr. Spencer's critics have attacked him from without, that is to say, they have contested his whole system and denied all his main propositions. A few have taken him in flank, and admitting some of his principles have contested the conclusions that he has drawn from them; but, so far as I know, he has not yet had to withstand the charge of failing to carry his principles to their logical and legitimate result.

While I am conscious of the extreme temerity of challenging Mr. Spencer upon his own ground, I am sustained by the consciousness that I am more Spencerian than Mr. Spencer himself, and by the belief that his splendid discoveries have a wider application than even he himself allows.

"The presentation of Intelligence as an adjustment of inner to outer relations that gradually extends in Space and Time, that becomes increasingly special and complex, and that has its elements ever more precisely co-ordinated and more completely

integrated, leaves us with a conception which obviously requires further development. The various degrees and modes of Intelligence known as Instinct, Memory, Reason, Emotion, Will, and the rest, must be translated in terms of this conception. If, as above alleged, the several grades of Mind and its component faculties are phases of the correspondence and factors in the correspondence, they can be interpreted as such." So says Mr. Spencer, and so upon his showing I thoroughly believe; but when he subsequently undertakes the classification of "the several grades of Mind and its component faculties," he abandons altogether this presentation of Intelligence as an adjustment of inner to outer relations, and adopts instead of it the principle of representation; classifying the mental faculties not with direct reference to their correspondence with circumstances in the environment, but with reference to their degree of representativeness. That such a principle is erroneous as a basis of classification, Mr. Spencer's own words, as quoted above seem to me to sufficiently indicate, and that the resulting classification is faulty—grouping together widely different faculties and separating those that are closely alike—I shall now endeavour to show.

Mr. Spencer's classification of Cognitions is, as is well-known, as follows :—

"Presentative Cognitions ; or those in which consciousness is occupied in localising a sensation impressed on the organism—occupied, that is, with the relation between this presented mental state and those other presented mental states which make up the consciousness of the part affected ; as on cutting one's finger.

Presentative-representative Cognitions ; or those in which consciousness is occupied with the relation between a sensation or a group of sensations and the representations of those various other sensations that accompany it in experience. This is what we commonly call perception—an act in which, along with certain impressions presented to consciousness, there arise in consciousness the ideas of certain other impressions ordinarily connected with the presented ones : as when its visible form and colour lead us to mentally endow an orange with all its other attributes.

Representative Cognitions ; or those in which consciousness is occupied with the relations among ideas or represented sensations, as in all acts of recollection.

Re-representative Cognitions ; or those in which the occupation of consciousness is not by representations of special relations, that have before been presented to consciousness ; but those in which such represented special relations are thought of merely as comprehended in a general relation. Here the concrete relations once experienced are, in so far as they become objects of consciousness at all, only incidentally represented, along with the abstract relation which formulates them. The ideas resulting from this abstraction, do not themselves represent actual experiences ; but are symbols which stand for groups of such actual experiences—represent aggregates of representations. And thus they may be called re-representative cognitions. It is clear that the process of re-representation is carried to higher stages, as the thought becomes more abstract."

As to the first class, that of Presentative Cognitions, Mr. Spencer would surely be himself the first to admit that all cog-

nitions, even those here classed as Presentative, contain represented elements. When I cut my finger the sensation of smarting pain is indeed presented, but the mental states that make up the consciousness of the part affected, although many of them are presented, yet include also a crowd of others that are wholly represented. Mr. Spencer has elsewhere worked out with unrivalled analytical skill the process by which an individual builds up a knowledge of his own organism; and the mental states which make up the consciousness of the part affected must include representations, more or less distinct, of all those muscular, tactile and other sensations by which this part became known as distinguished from other parts. That such cognitions as that instanced above require a separate place in a classification is clear, but that they can be classed as wholly presentative cannot be admitted.

The class of Presentative-representative Cognitions is susceptible of division into two, by a distinction which, though not at all sharply defined, is yet very important. Those cognitions, of which Mr. Spencer's example of the orange is a type, and which constitute the class of ordinary percepts, form only one of these divisions. Suppose, however, that the object presented to my senses, instead of being an orange, is a bael fruit, and suppose that this object is quite new in my experience. After an examination of the fruit, followed perhaps by an examination of the parent plant, I decide that, although not an orange, it belongs to the order Aurantaceæ. In this case it cannot be said in the terms of Mr. Spencer's classification, that consciousness is occupied with the relation between a sensation or a group of sensations and "the representations of those various other sensations which accompany it in experience;" for the group of presented sensations composing the consciousness of the bael fruit has never been experienced before. Yet consciousness *is* occupied with the relation between a group of presented sensations—those answering to the characters of the fruit—and a group of represented sensations answering to the characters of the natural order Aurantaceæ. Hence, while the cognition is undoubtedly Presentative-representative, inasmuch as one term contains presented elements while the other does not; yet it is excluded by the accompanying definition from Mr. Spencer's group of Presentative-representative Cognitions.

In the next class—that of Representative Cognitions—Mr. Spencer includes "those in which consciousness is occupied with the relations amongst ideas or represented sensations, as in all acts of recollection". It seems clear from this expression, as well as from the name of the group and its position in the scheme of classification, that this class includes representations of the previous classes only; the word 'or' appearing to mean that the term 'represented sensations' is an equivalent substitute for the term 'ideas'. If this is a correct interpretation of Mr. Spencer's

meaning, the group is open to a double objection. In the first place it includes more than acts of recollection. For if I am unable to determine the natural order of the bael plant while it is actually under examination, but upon subsequent reflection, when I no longer have it before me, I am able to refer it to its position, it is clear that this is a cognition in which consciousness is occupied with the relations of represented sensations. The represented sensations corresponding with the characters of the bael fruit form one term of the relation which constitutes the cognition, and the represented sensations corresponding with the characters of other plants of the natural order *Aurantaceæ* form the other term. Yet this determination of the natural order of the plant is not an act of recollection. It is a process of reasoning; and hence, though it is strictly representative, it is excluded from Mr. Spencer's class of Representative Cognitions. The artificial character of this classification is well demonstrated by the same example. If I have both the bael plant and other *Aurantaceous* plants before me, the determination of the natural order of the former is a Presentative Cognition. If the bael plant is present, while for the characters of other *Aurantaceæ* I have to depend on my memory, the same process is a Presentative-representative Cognition: while if the bael also is remembered the same process belongs to yet another class, that of Representative Cognitions. To return to the consideration of this class, not only does it exclude cognitions that are strictly representative, but it includes also cognitions of the highest degrees of re-representativeness. For it is manifest that cognitions of the most abstract and re-representative character admit of recollection even more perfectly than do cognitions that contain presented elements. As the remembrance of a presented sensation is never as vivid as the presented sensation itself, so the cognition into which a represented sensation enters, can never be as vivid as the cognition in which the sensation was actually presented. But, on the other hand, a highly re-representative cognition may be as vivid during its remembrance as during its original conception. If Mr. Spencer meant to include among Representative Cognitions the recollection of re-representative cognitions, then I would submit that not only is the definition imperfect, but that the position of the class of Representative Cognitions should be above instead of below that of Re-representative Cognitions; since if these latter are remembered, that is, represented, the remembrance adds one more grade of representation to their already highly re-representative character.

From the foregoing considerations it appears that Mr. Spencer's departure from his own principles has been productive of error, that there is an additional principle beside that of the degree of representativeness which should guide us in the classification of cognitions, and that this other principle is actually the more fundamental and important of the two, and must govern the

primary divisions, while the degree of representativeness may well form a subsidiary principle for the demarcation of the subdivisions.

Bearing in mind Mr. Spencer's proposition that Intelligence is the correspondence of Relations in the Organism with Relations in the Environment, the classification of Cognitions that I would propose is as follows:—

Class I.—*The Cognition is the revival in consciousness of a previously established Relation.* Cognitions of this class admit of division into three sub-classes.

a. *Both terms of the revived Relation contain presented elements.* This sub-class is coextensive with Mr. Spencer's class of Presentative Cognitions. But the form of statement here adopted avoids the inaccuracy which appears to me to exist in his definition of that class. In the case which he instances of the cut finger, there is a relation established between the presented sensation of the smart from the wound, and the mental states, some presented and some re-presented, which make up the consciousness of the part affected. While both terms contain presented elements, only one is entirely composed of them, the other being partly represented. Cognitions belonging to this sub-class are those Percepts which, being of the lowest and least differentiated form, merge on the one hand into Sensation and on the other into Reasoning.

b. *One term only of the revived Relation contains presented elements.* This is the process of Perception in the ordinary sense of that term. The difference between the Perception of an orange and the classification of a bael fruit clearly is this. The group of mental states corresponding with the group of characters—of colour, form, size, &c.—presented by the orange, has previously been brought into relation with the group of mental states corresponding with the other characters—of succulence, odour, texture, &c.—which are not now presented but are represented in consciousness; and the revival of this previously-established relation is the process of Perception. On the other hand, the group of mental states corresponding with the characters presented by the bael fruit has never before been present in consciousness. It has to be brought into relation with other groups of mental states, either presentative or representative, until a group occurs with which a relation of similarity can be established. The establishment of this new relation constitutes a process of Reasoning, and the character of the process is not affected by the presentative or representative character of the terms which are brought into relation. The next time that the bael fruit comes under notice it is *perceived* to belong to the orange family; the perception being the *revival* of the relation which was established on the first occasion. Of course, colloquially speaking, the fruit was perceived the first time it was seen; but the perception amounted only to its perception as a

solid vegetable product, probably a fruit. That is to say, so far as it resembled other solid bodies, other vegetable products, and other fruits; in other words, so far as there was a revival of relations previously established between mental states corresponding with similar presented characters, and mental states corresponding with characters possessed but not presented; so far there was Perception. But those cognitions whose terms had not previously been brought together in consciousness, that is to say those by which its characters were found to resemble the characters of other Aurantaceous plants, were processes, not of Perception but of Reasoning. It may be said that since no two objects are precisely alike, nor does even the same object ever present precisely the same group of characters to observation, perception as here defined cannot exist; but this is an unnecessary refinement. As in the external world (assuming for the sake of argument that an external world exists) there is every degree of difference between the groups of characters presented and groups of characters previously experienced, from identity to the widest dissimilarity, so in consciousness there is every degree of gradation between perception and reasoning; but although not sharply demarcated, the processes are none the less broadly distinguishable.

This second sub-class of Cognitions is coextensive with the Presentative-representative Cognitions of Mr. Spencer as he defines them, and with the first of the two groups into which as I have explained above, that class seems to me divisible; and in this case again the view here presented appears to express the nature of the cognition with greater accuracy. For ordinary perception is not a presentative-representative cognition in the sense that one term is wholly presentative while the other is representative. The visible form of an orange, for instance, which enters into one term of the relation constituting perception, is itself a cognition containing elements both presentative and representative. Hence it seems to me more correct to speak of Percepts as cognitions of the first class, one term of which contains presented elements.

c. Both terms of the revived Relation are wholly representative. This is the process of Remembrance. It includes part of the Representative Cognitions of Mr. Spencer, together with representative cognitions of all degrees of remoteness from presentation. On the other hand, all those representative cognitions in which consciousness is occupied with the establishment of a new relation between terms, however low the terms may be in the grade of representativeness, and however often they may have separately or in other relations been present to consciousness, since they are excluded from the class, are excluded from the sub-class also.

Class II.—*The Cognition is the establishment of a new Relation in consciousness.* This is the process of Reasoning. It may be

carried on between terms of all degrees of representativeness not excepting the very lowest. When both terms are presented, as in the case, to use Mr. Spencer's example, of a cut finger, it may appear to be straining the sense of words to call any part of the resulting cognition a process of Reasoning; yet if that particular spot has never been cut before, there must be the establishment of an altogether new relation; a relation between the presented sensation caused by the cut, and the states of mind, part presentative and part representative, which make up the consciousness of the part affected, two terms which have never before been brought into the same relation: and the establishment of a new relation is Reasoning. That the same condition of Mind has already been adduced as an instance of Perception is an apparent but not a real inconsistency, for it was then stated that the lowest form of Perception merges into Reasoning on the one hand and into Sensation on the other; it is indeed the starting-point from which they diverge. While the mental process by which we cognise a cut on the finger is from one aspect a perception, it is from another aspect a ratiocination. It is indeed a double process. Although the place has, we suppose, never been cut before, it has been the starting-point of innumerable sensations of touch, pressure, temperature, &c., which, combined with innumerable sensations of muscular exertion and of vision, constitute, when represented simultaneously and with various degrees of vividness, the complex mental state forming consciousness of the part affected. On the other hand there have been previous experiences of cuts, which enable a new experience of a similar character to be classified with them and distinguished from sensations accompanying other injuries. Now what occurs in the mind when the finger is cut? There occurs, as has been said, a double process. There is (1) the revival of a previously-established relation between some sensation and the group of mental states which make up the consciousness of the part affected; and there is (2) the establishment of a new relation between the quality of this sensation and the quality of other represented sensations which are known to have proceeded from cuts. There is thus a process of perception and a process of reasoning. That the two processes do occur and are distinct is easily shown. If a blind man were asked how he knew that it was his *finger* that was cut, and not any other part, the question would appear absurd, and if answered at all it would be by the reply that he *perceived* that it was his finger. But if he were asked how he knew that his finger was *cut* and not bruised, he would say that he recognised the feeling to be like that of previous cuts. By thus giving a reason he would make the formal admission that he arrived at this cognition by a process of reasoning. Doubtless the process may virtually be called one of perception, and the distinction here made is an analytical refinement, but it is a not inapt illustration of Mr.

Spencer's doctrine that Perception, Remembrance, and Reasoning, distinct as they are in their developed forms, blend at their origin and spring from a common root.

Like the first class of cognitions, the processes of Reasoning and their results admit of subdivision according to the representativeness of the terms between which the relation is established, but unlike that class these subdivisions do not admit of precise definition. Whether the bael fruit is classified from actual comparison of its presented characters with those of other Aurantaceæ, or from comparison of its presented characters with the remembered characters of these; or whether its characters as well as theirs are remembered, makes a marked, but not a material difference. Nevertheless, since, "as the process of representation is carried to higher stages, thought becomes more abstract," the degree of representativeness forms an index to the elaborateness, complexity, and abstractness of the reasoning.

The following table shows clearly the classification proposed:—

		The Process is termed	The Results are termed	
Intelligence (Cognition). The correspondence of Relations in the Organism with Relations in the Environment.	Revival of a previously-established Relation.	Both terms of the Relation contain presented elements.	Perception.	Percepts.
		One term only contains presented elements.	Perception.	
		Both terms are wholly represented.	Remembrance.	
	Establishment of a new Relation.	Reasoning.	Concepts.	Cognitions.

I trust it will be apparent from the tone of the foregoing criticism that it is written in no carping or caviling spirit. Believing as I do that Mr. Spencer's System of Synthetic Philosophy is an expression of the highest development that the human intellect has attained, it would be strange indeed if it were so. But it is no disparagement to a worker whose field of operations extends over two universes—the universe of material things and the universe of mind—if an acre here and there is cultivated somewhat imperfectly; or if, when the territory opened up by him comes to be parcelled out in plots, each of which engrosses the whole labour of a worker or a band of workers, small irregularities of the surface come into view which were overlooked in the more extended survey.

CHARLES MERCIER, M.B.

VII.—CRITICAL NOTICES.

Physical Metempiric. By the late ALFRED BARRATT, author of *Physical Ethics*. London and Edinburgh: Williams & Norgate, 1883. Pp. xxvi., 311.

This volume contains all that could be printed of a work upon which the late Alfred Barratt had been engaged for some years before his sudden and untimely death in 1881. Mrs. Barratt has prefixed a short memoir of her husband, giving a simple and graceful account of his early distinction and unceasing intellectual activity: the memoir also contains recollections by Prof. Jowett and other friends. Every one will remember Barratt's contributions to *MIND* some four or five years ago. These essays, which have been reprinted as appendices to the present work, were published chiefly to defend or explain the doctrines of his first work on *Physical Ethics*: with which again this posthumous treatise is closely connected; for the germ of it is to be found in an appendix to the author's earlier one. On my mentioning to him once the stimulus I had received from that portion of his writings, he said that he now thought he saw his way to carrying much further the speculations there initiated. He must then have been engaged with *Physical Metempiric*.

The very title will to many readers seem like a contradiction in terms: *Metempiric* they have been accustomed to regard as a wearisome region of speculation and endless debate, contrasted with physical science by the unreality of its object, its uncertain methods and its vacuous results. Those, however, who read farther will acknowledge that, as understood by the author, this collocation of terms in the title is justified by the contents. The book gives a more definite form than has hitherto been assigned to a theory of the ultimate nature of the world which, whether or not it be finally accepted, has already presented itself dimly to many minds, and seems to belong to the speculative tendencies of our age. It is closely related to the doctrine of *Mind-stuff*, often discussed in this Review and elsewhere.

Our author's preliminary division of the field of human knowledge and inquiry needs the attention of any one who would understand the sequel.

"All possible objects of speculation [he says] lie wholly within, or wholly or in part outside, experience. The former region, *Empiric*, has two divisions, *Physic* and *Metaphysic*. *Physic*, or Physical Science, is the science of the external universe, or objects in space. *Metaphysic* includes the whole remainder of Experience, or the knowable; that is to say, first, *Metaphysical Science*, which comprehends both the sciences of the inner experience (such as Pure Logic and Pure Psychology) and also the Psychophysical Sciences, which deal with the special relations between inner and

outer, such as the science of sensation and the science of action (of which Ethic and Politic are parts); and, secondly, *Philosophy*, which treats of experience as a whole, its nature and its relation to its parts. *Metempiric*, on the other hand (if I may adopt a convenient term of Mr. Lewes's), includes all speculations which are not directly or indirectly verifiable by sensation, which therefore transcend Experience and lie in the region of the Unknowable" (p. 1).

To appreciate the bearings of the divisions and definitions in this passage we must grasp firmly the meaning of 'Experience' as there used: it is limited to the private experience of each individual. To each man, therefore, the experience of every other, being unverifiable in sensation, transcends experience and is unknowable. Physic and Metaphysic, then, deal with the world as it is known to anyone in one's own experience; but the unknowable region of other consciousness belongs to Metempiric: and the purpose of the book is, in brief, to set forth a theory that the ultimate nature of things or noumenal world is such other consciousness or feeling, of which the world of matter moving in space is phenomenal.

This metempirical theory the author argues and explains by means of the 'Physical Method'. Until recently, he says, Physical science was the only department of knowledge which was either certain or exact or progressive; and this advantage it had because in its region alone measurement and experiment were possible. Metaphysic and Metempiric on the other hand made no progress, chiefly because they did not see how to guide their inquiries by Physical evidence. But lately this difficulty has been overcome, and Metaphysic has been revived by taking the physical phenomenon which accompanies every conscious state as its *symbol*; by which means we are able as in Algebra "to work in terms of the symbols and thus arrive at results in terms of the symbols, which have only to be retranslated to be true of the states of consciousness which they symbolise. . . . As the eye can study itself through its phenomenal reflexion in a mirror, so by the help of this method the mind is able to study its own working and history through its symbolism in physiological and other material phenomena." By this device the certainty and exactness of the Physical Method have been introduced into Metaphysic, and considerable progress has already been made there, especially by Mr. Spencer and by the German Psychophysicists. In *Physical Ethics* Barratt himself applied the Method to the sphere of Morals, and the object of the present work is to do the same for Metempiric.

To the Positivist's preliminary objection that all speculations transcending experience are to be avoided, he replies that in fact no one does or can do so, and therefore it is desirable that the form in which such beliefs are held should be as reasonable as possible, and what is reasonable must be decided after argument by experts. As for the data of Metempiric everyone recognises

them; for the first and most fundamental of them is the assumption by each of us that there exists experience or consciousness other than his own, "the denial of Solipsism": so much everyone necessarily assumes. The belief probably arises from the connexion of one's own experience with a body, the perception that other bodies are similar to one's own, and the inference that they are connected with other consciousnesses or systems of experience. However originating, such a belief is necessary to harmonise our view of nature, and still more our relations to Society; and the above origin assigns to it the same basis as all beliefs have, even the most assured—namely, Association. But if those considerations do not prove it, there is no other way of doing so. It is strictly and absolutely unverifiable: by no means can another's consciousness become a part of my own or enter into my experience. "If in my picture which I call the universe I find it necessary to draw other men painting too, no doubt I make them painting with real paint, but it is my paint all the time; that part of my picture which depicts their pictures is in no way different from the rest of it, and does not go at all to prove their existence outside my picture." The most austere Positivist, then, believes in other consciousness, in that whose existence is unverifiable, and is therefore a Metempiric.

The Metempirical system that starts from such a datum will of course be very different from those doctrines that have made the unknowable region something different in nature from the knowable: it is only an extension of the knowable beyond our individual knowledge; so that the relations among the parts of the unknowable must be similar to those of the knowable. Applying the Physical Method we see at once that whatever has been hitherto proved by that method in Metaphysic as to the conscious states of the inquirer himself, may now be extended to other consciousness (though there can no longer be direct verification) and taken up into Metempiric. The most suggestive principle obtained was the evolution of consciousness; which, whilst it could lead the Metaphysician only as far as he was able to verify the inferences by observation of his own consciousness, the Metempiric can follow much further: for (as was observed in *Physical Ethics*) "if a man believes in the existence of consciousness in any object that is not exactly identical with himself, he has no right to draw an arbitrary line at any particular degree of difference and to assert that within that line is consciousness but without it none". Hence a belief in the universality of consciousness has long been spreading; and the Physical Method now enables us to lay at the foundation of Metempiric the principle that "Consciousness is coextensive with Matter, or rather with the Motion of Matter". As every motion is a link in the causal chain of the universe in space, so every state of consciousness is the "result of other conscious states, not in the organism alone but running alongside of the physical

series of motions into the inanimate world, into the flux of forces which constitutes the physical universe; they must be components of another conscious universe, of which the physical is only the sign and the phenomenon. . . . The universe of matter is phenomenal, that of consciousness noumenal . . . the former is the universe as it appears, the latter as it is in itself." We thus obtain an explanation of the nature of Things-in-themselves, a belief in which is nearly as inevitable and ineradicable as that in other consciousness, but equally incapable of proof.

If now we inquire into the ultimate nature of consciousness, the Physical Method points us to the ultimate nature of Matter as far as we know it, that is, to the doctrines of Molecular Physics. Barratt assumes that the principle of Atomism is established, at least that matter may be described as ultimately consisting of "centres of force or motion". Corresponding to these, then, we must suppose centres of Consciousness, which may be called Monads; and the noumenal universe we must imagine to consist of an infinite number of monads, of which the material universe with its infinite atoms is phenomenal. Possibly, indeed, this constitution of the world is not quite ultimate: it has been suggested that atoms may have arisen out of an uncentralised continuous substance; and, if this be ascertained, the Physical Method will regard monads as having been evolved from an uncentralised continuous consciousness. But meanwhile it is convenient to begin with atoms and monads, and see what we may learn about the one from what we know of the other. If all ultimate atoms are alike, so are all monads. As the total mass of the physical universe is constant, so is the number of monads: and as each atom so each monad is eternal and unchangeable. Motion of an atom is the phenomenon of feeling in a monad, change of motion represents change of feeling, velocity symbolises intensity. The ways in which atoms interact are signs of the ways in which monads affect each other. Force impressed on an atom corresponds to sensation in a monad; force expressed to volition: not that the feelings of a simple primitive monad amount to the distinction of sensation and volition, but only to the rudiments of what will subsequently appear in those forms of consciousness to a perceptive monad at the centre of an organism. For an organism is an arrangement of atoms, *i.e.*, noumenally, of monads, by which the incident forces of the universe are co-ordinated in relation to some central monad: evolution of the organism brings to the central monad or Ego an extended perception and conception of the universe as an object, and this is attended with the growth of self-consciousness.

The perception of the universe as an object, and self-consciousness in its whole extent, are built up out of simple feelings. And every feeling in one monad is caused by change of feeling in another. Impressed feeling or sensation in monad A is the effect of a change or expression of feeling, or rudimentary volition in

monad B; but the change of feeling in B appears to A as a motion of the atom which is the phenomenon of B. To perceive the motion of an atom, however, is only a kind of feeling: the phenomenon of B's feeling in A's consciousness is itself feeling, and therefore noumenal; and this again appears to B and to every other monad as atomic motion. Hence there are not two worlds, a noumenal and a phenomenal, but only one with a distinction of aspects—noumenal to each internally and phenomenal to all externally.

It will have been noticed that this theory regards feeling as producing motion, not motion feeling. It opposes equally the common notion that feeling is an effect, consequence, or sign of motion, and the view recently taken by some philosophers that feeling and motion are simultaneous, and only different sides or aspects of the same fact. There is nothing, our author says, to show them to be simultaneous; the popular belief that they are in sequence is true, only the terms of the sequence are in an order the reverse of what is supposed. Feeling, in fact, is the cause of motion, and not merely cause in the sense of antecedent, but "efficient cause" in an intimate and essential way. The notion of causation as the mere relation of antecedent and consequent is taken from the interaction of phenomena only, and of them as such it is true and sufficient; but in sensation and volition we are conscious of something more than this, we have to do not with a mere relation of phenomena among themselves, but with the relation of noumena and phenomena, and efficient causation seems to be a good name for it. Indeed, of this efficient causation, the causation observed between phenomena is itself phenomenal: for phenomena consist of atoms and their motions, and these are only signs of monads and their feelings. If one phenomenon produces a change in another, that is a sign that a feeling in one monad has caused a change of feeling in another. If a moving body seems to cause a feeling in me, I must interpret it thus: the movement is first an effect or phenomenon of feeling in some other monad, and secondly it is identical with my own feeling, which in turn will have corresponding phenomena to other monads, and so on without end. How the object is identical with my feeling, differing not in itself but only in its associations, and thus obtaining a different name, may appear from this:

"Any conscious state may either be connected through association with ideas of other states, so that what fills consciousness is the relation between it and others, whereby it is perceived as an object external or not, or it may at once seek expression in action, perfect or imperfect, in which case, so far as it is perceived at all, it is referred to the whole Ego, and not to other separate states; it is thus not an 'object' or quality but an emotion or feeling. To take an example: if we go near a fire, the resulting state of consciousness may become either the 'object' fire or the 'feeling' warmth, according to the trains it sets up; if it set up a cognitive train, it is an object; if an active, a feeling or emotion" (p. 203).

And how a moving object is a phenomenon of feeling in some other monad may appear if we suppose that the moving object is an air-wave impinging on the ear and setting up a nervous current, and that when this reaches a certain part of my brain I hear a sound: the ordinary view treats the sound as a consequence of the nervous tremor; but is not rather the nervous tremor a part effect of sound-sensation existing beyond our organism, *i.e.*, in other monads?

How else "do we represent this sound when outside us, that is, as an external object or force? Surely not as aerial vibration alone, for that is not the whole force; it is hardly even part of it: for except as to certain tactual ideas which are practically evanescent, these aerial vibrations are light reflected from the vibrating particles, and manifesting them (in idea) to the eye: when we speak of sound as an external force or energy, we include in it not only its visual part, but its audible part too. But if this be so, where is the difficulty? The visual elements in the external object 'sound' produce the visual vibrations in ear and brain, the audible element produces the audible sensation of hearing. The process or 'message' to the ear gives off at each point processes to the eye, and that to the eye gives off processes to the ear. And of these the eye, happening to be the keener, can trace the progress of the message to the ear, the auditory centre; but if our ear were keen enough, it also could trace the progress of the message through the eye to the optic centre" (p. 210).

Visual and tactual feelings are so much more universal and definite than others that the external world, including the nervous system, is regarded as primarily consisting of them; but to regard the other sensations as caused by them is unwarranted. "There is nothing in visual states essentially different from others, or that makes it mysterious how visual states should accompany or even cause or pass into other conscious states, or *vice versâ*; in fact this is a process continually observed in what we call association, which is really nothing else than one state causing or becoming another" (p. 209). Hence of course the forces or movements which are the phenomena of mental states are "continually transformed and retransformed, each of the forces affecting a special sense is, on its way to the organ of sense, perpetually sending out little rills of other forces which affect other senses, so that the audible message is visible and the visible audible" (p. 212). The universe as a phenomenon, then, is something felt, and the cause of that phenomenon is feeling.

It is impossible, of course, to give any notion of the details of this remarkable system, or of the interspersed comments on conflicting views, and shrewd replies to anticipated objections; which prove the author to have been equally ingenious in self-defence, in criticism, and in construction. No inconsiderable portion of the present work is occupied with discussing the views of Green, Prof. Caird, and Mr. Balfour; and it was to have been supplemented by a comprehensive survey of all past and present opinions that offer any comparison with his own, from Hylozoism to Mind-stuff; but this latter portion was not ready for publication. Had he

lived, it is probable that he would have gone on to construct a Philosophy of Politics and a Philosophy of Religion. Some hints of the latter doctrine are to be found in ch. ix. of the present volume, on Monadism and Monism, and in the fragments of his preface. For the Politics, Appendix II. may be consulted: and to this a special interest attaches, since it shows that the character of his mind was not to be hastily inferred from a superficial acquaintance with *Physical Ethics*. The Egoism conscientiously maintained in that work was not regarded by him as alone an adequate guide to conduct. Much of his difference from Utilitarians was upon a question of classification: he assigned to Politics that consideration for the happiness of mankind at large which they usually include in Ethics.

That an unfinished work should be faultless in style, or even securely fenced against all objections to its main theses, is not to be expected. Yet as to style the want of revision may not be an unmitigated evil: for the scrupulosity that begins by removing every blemish, often goes on to disfigure many a grace, and arrives at pedantry in seeking precision; while the spontaneous utterance of this book, though seeming at first too ample and unrestrained, flowing like an inundation rather than a river, proves on closer acquaintance to be the natural expression of copious thought, and pleases the more it is read. And even as to matter, if there can hardly be too much deliberation, yet subsequent care will hardly redeem the first wanderings of a perverse or desultory understanding: the worth of a system of philosophy depends upon its primary conceptions; and, these determined, it only remains to elucidate them better and free them from verbal difficulties, to protect them from mistake and conciliate prejudice. In spite of much imperfection, then, in the expository treatment of *Physical Metempiric*, the principal fabric of the argument will probably seem to the reader, as he proceeds, to be always gaining in solidity.

At the outset the word *Metempiric* is strangely used. Lewes, its inventor, wavered perhaps as to its meaning, but at any rate he would not have applied it to that which may be at present verified in any human experience. To Barratt, however, everything is unverifiable and therefore metempirical that cannot become part of the experience or consciousness of any given person or monad; and such is the position of every other consciousness. Yet every consciousness believes in the existence of others, and is largely made up of representations of them. These points are insisted on at some length with much emphasis, but the reader is apt to treat them as a matter of course; and when they are stated as the basis of what is to follow, he is inclined to suspect a new system of Philosophy whose only postulates are so very reasonable. All he objects to is limiting the word experience to one's own consciousness, when we are agreed that there are other people whose experience is as good as ours: this looks like

an unprepossessing quibble and raises a prejudice against the sequel. I believe, however, such prejudice is misleading: the author in thus limiting the word experience only seeks to convince the Positivists that even they acknowledge something beyond it. His system does not require any such limitation of words: its rational merits would remain whatever they are if all this were forgotten: some other phraseology only would fall away. The distinction, for example, between Metempiric and Metaphysic would disappear: or at most Metempiric would become an Ontological extension of Metaphysic. There seems, indeed, a serious objection to his making Metaphysic include Psychology as a science solely verified by private experience: for if we omit from this science all that depends on our belief in the existence and testimony of other minds, little will remain, and that little will lose much of its certainty.

Again, the conception of the Monad is beset with some obscurity. Its existence is supposed to be indicated by the atom, its symbol: but what is its nature? Barratt sometimes calls it a centre of Consciousness, sometimes a *Träger*, also *Cogito*, *Ich denke*, Pure Ego. Some of these expressions, together with the symbolising atom, and reminiscences of Leibniz, suggest the notion of a spiritual entity, the subject of consciousness: and this clearly would be nugatory; for if we are to have some entity besides consciousness, we may as well take the atom at once and search no further. He says, however, expressly, "the monad is no soul of different nature to matter, it is the inner reality of all material phenomena" (p. 157). In other words, I suppose, it is Feeling: but how can Feeling be a centre of feeling? In one sense every relation is such a centre: whenever feelings match or edge one another, there is a centre of feeling. But if this is the meaning, an atom must be the phenomenon of a relation; and that cannot be, because every change of Feeling is a relation, and change of Feeling we have seen to be symbolised by change of motion. To get at the meaning we must fall back upon the author's suggestion that as atoms may be vortices of ether, so monads may be aggregates of what was at first uncentralised feeling: *i.e.*, they may be mere feeling integrated by association in forms that have been rendered stable perhaps by natural selection. If this be the nature of monads, it seems to me a very fruitful conception, but still to bear as many difficulties as suggestions. How such monads affect one another, ingenuity may perhaps imagine: but why must there be an intervention of atoms, and how can there be? For if atom and monad are really the same, in cognising an atom we have an intuitive knowledge of other consciousness; if they are not the same, Dualism is still with us, and mind and matter would be as good words for me as noumenon and phenomenon, indeed better by some syllables; while to call the opposition only a distinction of aspects will not, I hope, perplex any understanding.

The difficulty about the nature of monads is closely connected with that hard saying about "efficient causation," but this is hardly developed enough to challenge criticism, and really nothing depends upon it. It is enough to notice the reversal of the ordinary doctrine about feeling and motion, and the assertion that motion is the effect of feeling. Barratt has certainly not proved this; and besides many objections that might be urged against it from outside, some arise from within the system. It is admitted that feeling is always preceded by motion, as (for example) a sound by an air-wave striking on the ear; but it is urged that this air-wave is itself preceded by sound arising beyond the organism: similarly with warmth. And possibly common sense agrees to this. But if you prick your finger, what is the character of the feeling in the pin? Besides it was posited that an atom is the phenomenon of a monad, a moving atom of a feeling monad. But movement cannot equally represent all feelings. All different feelings must therefore be phenomenised in that which moves: an atom must contain phenomena of sound, warmth, smart—qualities of all possible feelings. But there are some feelings which we know only as such, and never as qualities: in these, then, we seem to have direct intuition of other consciousness. However, the atom of physical science is not supposed to have all qualities, but only the muscular, tactual, and visual.

This remark naturally leads to a consideration of the Physical Method, a conception of greater promise, surely, as a clue in Ontological inquiry than any other that has ever been offered. With what modifications it should be accepted, or how far it is likely to lead us in that labyrinth, cannot at present be discussed; and it is impossible, without a strong sense of dissatisfaction at the task, to multiply criticisms to which there can no longer be a reply. For undoubtedly the intelligence that with extraordinary resource foresaw and refuted so many objections could have met with unexpected explanation many more, and would have used them to illustrate the truths they seemed to obscure.

CARVETH READ.

The Concepts and Theories of Modern Physics. By J. B. STALLO.
("International Scientific Series," Vol. XLII.) London:
Kegan Paul, 1882. Pp. 313.

Mr. Stallo tells us that he means his book to be "a contribution not to physics, nor, certainly, to metaphysics, but to the theory of cognition". His aim is to purge out the heaven of old metaphysics which still taints modern physics. It is a common belief that modern physics has escaped "from the cloudy regions of metaphysical speculation". He thinks this belief is only in part a just one. The common "misconceptions in regard to the true logical and psychological premisses of science are prolific of errors,

whose reaction upon the character and tendencies of modern thought becomes more apparent from day to day". It is in the true behalf of physics that he writes. It is to further "the great endeavour of scientific research to gain a sure foothold on solid empirical ground, where the real data of experience may be reduced without ontological prepossessions". He is thus, if not a contributor to physics, at least a candid friend of the science. In spite of his seeming disclaimer, therefore, it may be allowed to a mere student of physics to make some answer to his criticisms, so far at least as they bear on accredited physical theories.

We have first to deal with what Mr. Stallo calls the "mechanical theory of the universe in its present form". This theory "undertakes to account for all physical phenomena by describing them as variances in the structure or configuration of material systems". In the light of it "the ultimates of scientific analysis are *mass and motion*, which are assumed to be essentially disparate". It thus "involves three propositions, which may be stated as follows:—(i.) *The primary elements of all natural phenomena—the ultimates of scientific analysis—are mass and motion.* (ii.) *Mass and motion are disparate. Mass is indifferent to motion, which may be imparted to it, and of which it may be divested, by a transference of motion from one mass to another. Mass remains the same whether at rest or in motion.* (iii.) *Both mass and motion are constant.*" These, with the assumption of the molecular constitution of bodies, lead to "four other propositions, which may be said to constitute the foundations of the atomo-mechanical theory. They are these:—(1) *The elementary units of mass, being simple, are in all respects equal.* (2) *The elementary units of mass are absolutely hard and inelastic.* (3) *The elementary units of mass are absolutely inert, and therefore purely passive.* (4) *All potential energy so-called is in reality kinetic.*"

The last four propositions are to the author the Quadrilateral of the atomo-mechanical theory, and against it his onslaughts are made. He takes for granted that they form together a single and undivided stronghold which is overthrown when a breach is forced at any point. His method is to throw his strength against the weak places, and to make out that all is won when the weak places fall. This method will do if the solidarity of the theory is a fact and not a mere "ontological prepossession". But it misses its end if the weak places are but outworks, and unacknowledged outworks, after all. The attack on them may be energetic and victorious, but the real stronghold is nothing the worse. Its defenders are not concerned with what happens beyond their lines. This is the answer that any physicist who is familiar with the best and latest teaching in his subject is bound to make to many of Mr. Stallo's criticisms. The chief points made against the Atomic Theory refer to unessential or provisional or discarded parts of it. Its best exponents would yield up most of them without feeling that the central doctrines were at all weakened.

In illustration, let us see how the "four propositions" are dealt with.

(1) The "equality of the elements of mass" is (we are told) an essential doctrine of modern physics. On what grounds? The author shows that he has a good knowledge of modern scientific writings, and on occasion quotes freely and fully from them. But he is hard pushed to find a physicist who will own to this foundation of the science. It would be easy to name half-a-dozen, with Maxwell and Thomson at their head, who theorise as if the exact opposite were the truth. Wundt, Herbert Spencer, Thomas Graham, C. R. A. Wright, F. W. Clarke, are the only authorities offered; they are quoted from magazine articles; each manifestly speaks in a tone of tentative suggestion; none is aware that his suggestion is really an essential foundation of the mechanical theory. We must in fairness ask for better proof that the doctrine is widely held or held at all before we own that our withers are wrung. The fatal argument brought against the doctrine thus foisted on physics is—that "the whole modern science of chemistry is based upon a principle directly subversive of it—a principle of which it has recently been said that it holds the same place in chemistry that the law of gravitation does in astronomy". This is the principle of Avogadro or Ampère. It requires the ultimate small parts of different gases to be of different weights. The answer is that the chemists are probably right; that modern physics has nothing to say against them; and is willing not merely to grant the point but to go a long way towards an explanation of it. So that we escape altogether the collision between physics and chemistry, in which physics was to suffer so grievously (for the author somewhat unaccountably takes for granted that "chemical concepts" must be sound). It is not essential to a consistent mechanical theory that the ultimate small parts or atoms of which bodies are built should be equal in mass. The author says nothing to make it apparent that it is essential. A multitude of facts indicate that the atoms are unequal, and physics takes cognisance of the indication.

(2) The "rigidity of the elements of mass" is the next foundation that must be destroyed. It is no less an "imperative requirement of the mechanical theory" that the atoms shall be perfectly hard and unyielding than that they shall be perfectly equal. To establish this we have a quotation from Newton, who in the *Opticks*, among other guesses, says, "It seems probable to me that God in the beginning formed matter in solid massy hard impenetrable movable particles". Nothing more than this. Modern physics can scarcely be held accountable for the faulty dogma on such slender grounds. What it demands in the ultimate indivisible particles of matter is elasticity, not rigidity. And, as our author admits, two of the most conspicuous hypotheses of the science—the Kinetic theory of gases, and the Vortex-theory of the atom—take account of the elasticity of the ultimate

particles, and go far to explain it. As the author's aim seems to be to involve the current doctrines in mutual conflict, he is unwilling to allow that the two great theories just mentioned have any shadow of foundation. On the Vortex-theory he is especially severe, but he plainly shows that he has failed to grasp it. He cites Maxwell's account of it from the *Encyclopædia Britannica*, and so far as the words go he cites it correctly. But it is a true paradox that one must be something of a mathematician to understand what a *real* theory the Vortex-theory is, and the author is not a mathematician. Like the undulatory theory of light as compared with the corpuscular theory, its consequences flow without subsidiary hypotheses from its initial data. The more these consequences are worked out the more phenomena the theory is found to explain. And the work of deduction is so difficult and intricate that it will be long before the resources of the theory are exhausted. The mathematician in working it out acquires the feeling that, although there are still some facts like gravitation and inertia to be explained by it, the still unexamined consequences may well include these facts and others still unknown. As Maxwell used to say, it already explains more than any other theory, and that is enough to commend it. All the strict consequences of the undulatory theory were not deduced at once, and the formation of shadows and astronomical aberration were at first thought to be inexplicable by it. But closer research changed these difficulties into triumphs. The Vortex-theory is still in its infancy. We must give it a little time. Mr. Stallo's *a priori* objections to it are not very grave.

"It seems to be evident," he says, "that motion in a perfectly homogeneous, incompressible and, therefore, continuous fluid is not sensible motion. All partition of such a fluid is purely ideal; in spite of the displacement of any portion of it by another portion, a given space would at any moment present the same quantity of substance absolutely indistinguishable from that present there a moment before. There would be no phenomenal difference or change. A fluid both destitute and incapable of difference is as impossible a vehicle of real motion as pure space; it is as useless for the purpose of accounting for the phenomena of material action as the quasi-material medium without inertia of which Roger Cotes said that it was not to be distinguished from a vacuum."

This is not hard to answer. That vortex-motion in the universal fluid is not "sensible motion" is surely an objection of the "ontological" kind, such as the author affects so much to despise. If it means that he cannot conceive of himself perceiving such a motion, it is clear that he has forgotten that his organs of sense are but aggregates of vortex-atoms like everything else. And if it is shown that two vortex-atoms can act upon each other so as to change each other's paths and vibrations just as two visible gross bodies might do, the impact of a vortex-atom stick on a vortex-atom head may quite well give rise to the idea of "sensible motion" in the head. No one who has seen two vortex-rings in

collision with each other, or the impact of vortex-rings against a candle flame, can fail to have a lively idea of their sensible motion. In fact the ineffaceable stamp of rotational motion originally impressed on the portion of fluid forming the vortex-ring differentiates it for ever in kind from the irrotational fluid in which it swims. In virtue of its inalienable vorticity the matter of the ring is qualitatively distinguished from the non-vorticoose matter round it. A space half-filled with vortex-ring and half with irrotational fluid would be sensibly, phenomenally, really, different and distinguishable from the same space wholly filled with irrotational fluid. Given the vortices in the fluid there are and eternally will be *differences* in it. By virtue of these differences it is perfectly capable of acting as "the vehicle of real motion" and of "accounting for the phenomena of material action".

The author manages to make the Vortex-theory look small by classing it with what he calls an "analogous attempt to dispense with the necessity of endowing the elementary atoms with the intrinsic property of elasticity". This is Secchi's wild speculation on the impacts of hard atoms in rapid rotation. He thought that such atoms might rebound from each other when they met pretty much as if they were elastic. The speculation was founded on a misunderstanding of a mechanical theorem of Poinso't's. The mistake was apparent to any one who looked into the matter; the theory never had the slightest vogue; and it explained nothing. But seven pages are given by Mr. Stallo to slaying the slain. Two pages dismiss Thomson's theory; and the simple reader is left with the impression that, if Secchi's theory is bad on the face of it, Thomson's is worse in the ratio of seven to two. This is an example of the kind of special pleading which mars the author's argument. He is nothing of a judge, he is often a mere advocate; for he makes points when he can, and at times succeeds in blurring over the distinction between valid theory and invalid. Physics counters his second line of attack, then, by denying that it is essential to a true mechanical theory to assume that the ultimate elements of matter are perfectly rigid. Many direct indications show that even in bodies called simple the small parts are not only elastic but capable of definite intrinsic vibrations. And the most fruitful theory of matter yet propounded accounts for both the elasticity and the vibration.

(3) The third essential proposition "that the elementary units of mass are absolutely inert" stands on a different footing. It amounts to this—that motion cannot be transferred from one body to another except the bodies are in contact or are connected by a continuous material medium. In the author's words: "Action at a distance is impossible; there are in nature no pulls, but only thrusts; and all force is not merely (in the language of Newton) *vis impressa* but *vis a tergo*". Modern physics accepts the statement. What is urged against it? Just this, that "science is in irreconcilable conflict" with it. "Action at a distance, the

impossibility of which the theory is constrained to assert, proves to be an ultimate fact inexplicable on the principles of impact and pressure of bodies in immediate contact. And this fact is the foundation of the most magnificent theoretical structure which science has ever erected"—that is, of course, the theory of universal gravitation. Our author makes much of this fact of gravitation; it is the type and symbol, as it is the last resting-place, of "action at a distance". There are other actions of a mechanical kind, such as light and heat, which are transmitted from sun to planet; for them he has no difficulty in conceiving a continuous material carrier. But gravitation is an "ultimate fact," in spite of the protests of all scientific thinkers from Newton downwards. Indeed the author has so realistic a conception of Newton's own quantitative law, that he makes light of Newton's own disclaimer against taking the law for a qualitative fact. In a letter to Bentley, Newton writes:—"That gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a vacuum without the mediation of anything else by and through which their action may be conveyed through one to another, is to me so great an absurdity that I believe no man, who has in philosophical matters a competent faculty of thinking, can ever fall into it". This is explicit enough. The constant efforts of men of science since Newton's day to account for gravitation without assuming action at a distance tell in the same way. The author reviews them briefly and points out that none of them hitherto have been successful. His triumphant conclusion is that they never will be successful, and that the "mechanical theory" is hopelessly discredited because this "ultimate fact" is inexplicable on the principles of impact and pressure. If gravitation were the only unexplained phenomenon in nature and had baffled scientific research for centuries, this position might be justified. But it is too soon to crow so loudly. Let us consider a little what it is that has to be explained, and in what way the quantitative statement of *how* gravitation acts is connected with the *why*. Professor Lodge has put this so clearly in a recent lecture¹ that I cannot do better than give his words. Newton would have entirely agreed with him.

"If a man explained the action of a horse on a cart by saying that there was an attraction between them varying as some high direct power of the distance he would not be saying other than the truth—the facts may be so expressed—but he would be felt to be giving a wretchedly lame explanation, and any one who simply pointed out the traces would be going much more to the root of the matter. Similarly with the attraction of a magnet for another magnetic pole. To say that there is an attraction as the inverse cube of the distance between them is true, but it is not the whole truth; and we should be obliged to any one who will point out the traces, for traces we feel sure there are."

¹ *Nature*, January 25 and February 1, 1883.

Newton's law of gravitation, endowed by some with a mystic physical reality, simply amounts to this—that as an observed fact two particles of matter when apparently left to themselves will approach each other—and that the rate of change of their motion of approach varies in magnitude inversely as the square of the distance between them. Nothing in astronomy would be altered if every atom were provided with an *angelus rector* who pushed it at every instant with a nicely judged force towards its neighbours. Nothing will be altered if it is found that vortex-rings in an all-pervading fluid are so pushed towards each other by the stresses their intrinsic or pulsating motions set up in the fluid. It is merely for brevity—to Mr. Stallo as to many others a misleading brevity—that the word 'attraction,' with its metaphysical associations, is used in the statement of the law. 'Attraction' in his sense is not a *fact*; much less is it the "foundation of the most magnificent theoretical structure which science has ever erected". But are the vortex-atoms pushed towards each other according to the Newtonian law? No one can yet say. The mathematical difficulties have not yet been overcome, and gravitation is after all but a residual phenomenon compared with the other actions which take place between the atoms. As Professor Lodge says:—

"We must remember how small a force gravitation is. Ask any educated man whether two pound masses of lead attract each other, and he will reply—no. He is wrong of course, but the force is exceedingly small. Yet it is the aggregate attraction of trillions upon trillions of atoms; the *slightest* effect of each upon the other would be sufficient to account for gravitation; and no one can say that vortices do not exert some such residual, though uniform, effect on the fluid in which they exist, till second, third, and every other order of small quantities have been taken into account, and the theory of vortices in a perfect fluid worked out with the most final accuracy."

This time, then, Mr. Stallo has aimed at a real foundation of physics, but his attempt to destroy it by bringing it into collision with the "magnificent structure" of astronomy is a failure. Astronomy has no doctrine at variance with physics. It utilises an observed relation; but it does not theorise on the cause of this relation. Such theorising is for physics; and every step gained seems to show that physics is theorising in the line of truth.

(4) The last of the four propositions—that all energy is essentially kinetic—is a consequence of the last. If there be no such thing as action at a distance, then change of shape, of configuration, in systems of bodies is associated inevitably with movement of the circumambient medium. The kinetic energy which is not in the moving system (and which, therefore, on a one-sided view seems to have become potential) is really transferred as kinetic energy to the medium. The alternation between the kinetic and potential forms in the energy of an oscillating system is, fairly regarded, only an appearance. The energy is alternately in the system of

bodies and in the medium, but it is kinetic in both. In other words there is no energy other than what depends on motion. What seems transformation is only transference. This is most perfectly illustrated in the vortex-theory. A circular vortex-ring may be crimped into little stationary waves, and will oscillate indefinitely about its mean form. At the end of each swing its parts seem momentarily at rest; in common phrase the energy of its oscillation is for an instant entirely potential. But the eye which looks for the forces maintaining the oscillations will see that at that instant the flow of the fluid around the ring is altered from the mean. The altered flow means altered pressures on the ring; and these tend to restore its form again. But at the moment when the ring was still the energy of its motion was not latent in it in any form; it was in the fluid and was manifested in the altered flow of it. Mr. Stallo has altogether failed to see that this is a possible view. Against it he merely heaps up instances in which the phrase 'potential energy' is used by men of science. He then infers that each instance is a contradiction of the proposition that all energy is kinetic. The inference is entirely irrelevant. To say that energy has become potential is merely to say that it has disappeared from the arbitrarily isolated system we are choosing to consider. We have merely to take a wide enough view to see that it is still present and still kinetic. We may quite consistently, when speaking to instructed listeners, speak of it as potential. We do not contradict ourselves any more than when we speak of the sun as travelling across the sky. Mr. Stallo's long and laborious chapter proves nothing but his reading. His conclusion—that the history of the theory of energy is "that of a progressive abandonment of the mechanical proposition"—proves how greatly he has misread. Those who are now 'making history' in regard to the theory of energy are each and all inspired with the faith that this fundamental mechanical proposition is true.

The author claims that, having discussed the cardinal principles of the mechanical theory, he has shown "that they are severally denied by the sciences of chemistry, physics, and astronomy". We have met his claim by showing that his cardinal propositions are not essential, or that his presumed contradictions are nothing if not verbal. We shall not follow him in his examination of the chemical Atomic Theory and the Kinetic Theory of Gases. His criticisms of these are often shrewd even if they are not new. But he betrays an unfamiliarity with the subject-matter scarcely less striking than his familiarity with what has been written and speculated about it. If people always used words accurately and with the same meanings it might be safe to take the words as corresponding with things. But it is dangerous to deal in words exclusively, even when they are the words of approved men of science. Those who have dealt in the things that are faintly shadowed by the words have the clue to their meaning, and from

within can read into them much that they fail to express. Hence working men of science understand each other's language, even when it is imperfect, a thousand-fold more clearly than the clearest-headed of those who are hearers only. Mr. Stallo has been a diligent and painstaking hearer and reader. We are convinced he would never have written at least the first half of his book if even to a small extent he had also been a doer. His criticisms apply not to the concepts of physics in the truest sense, but, where they are good, to the verbal expression of them. And even then he is too often content with a semblance of refutation when a little further examination would have led him to an opposite conclusion. He has the further fault (we have noticed it before in American writers), of not distinguishing between first-rate authorities, whose dicta are worthy of the carefulest consideration, and third-rate or fourth-rate writers, whose opinions can scarcely be called science. In dealing with a disputed question a kind of balance of authorities is sometimes struck, and to an Englishman at least the principle of manhood suffrage is too crudely allowed to decide the issue. Scientific questions are of course not to be settled by authority, but in Europe it is often held that some teachers are better entitled than others to say what is accredited doctrine and what paradox. Mr. Stallo has sometimes failed to distinguish the two, and set down both alike to the account of "modern science".

Enough has been said to show that the book is worth reading, but with caution—and a grain of salt. On the more strictly metaphysical parts of it I do not venture an opinion.

DONALD MACALISTER.

Nature and Thought: An Introduction to a Natural Philosophy.

By ST. GEORGE MIVART. London: Kegan Paul, 1882.
Pp. 261.

Mr. Mivart presents us with a series of dialogues between F., a mild, easy and rather simple youth, who has played at scepticism and is now in a state of unstable equilibrium, ready for conversion, and M., his "guide, philosopher, and friend," who seeks to lead him into that outer court of the temple of Catholic Truth, Natural Theology or "Philosophy". This is sufficient indication of the pith and purpose of the book and, without saying anything about its literary setting, it may be allowed to pass on to an appreciation of the author's main positions, and his way of defending them. His essential theses are four:—(1) The possibility of absolute certainty; (2) A *known* world-in-itself, the postulate of science; (3) The possession of absolute, necessary and universal truths, which lifts the origin and nature of man above the plane of "Nature," and makes a supernatural anthropology possible; (4) The possibility of theology, theodicy, and

supernatural religion and morality. His method of philosophy is an amalgam of common-sense and psychology, making "use of all our means of information," and "justifying the spontaneous natural dictates of man's uncultured reason by philosophical analysis". A system of propositions—each self-evident, and all coherent—is true, and such a one is this "natural philosophy". The challenge may very well be accepted; and both his principles severally and their harmony be called in question.

(1) We attain "absolute certainty" by being furnished with "intellectual intuition," a faculty of positive and potent direct insight, and no "impotence" or process of reflection—*actus not actio*, an instantaneous glance and not an inquiry. "Whatever is evident is true" and absolutely certain, a doctrine identical with Descartes' appeal to clear ideas, although that is previously condemned on p. 19, and Descartes is included amongst those philosophers whose analyses of consciousness have been incomplete and one-sided. That is "evident" which is an object of "intellectual intuition," and such objects constitute "objective evidence," which by coinciding with "subjective evidence," or the feeling of assurance and certitude, give "absolute certainty". These objects, again, are a kind of occult qualities called "objective concepts," which inhere in the things themselves, and swing in meaning between Scholastic realism and Platonic idealism, so that it is difficult to say decidedly whether Mr. Mivart takes them to be *ante res*, *in rebus*, or *inter res*, or what else the *res* are themselves. This way of seeing percepts, concepts, and realities double, looks very like seeking the ground of the ground, the rationale of the irrational, and the reason of the faith that all reasoning presupposes. Surely the faculty and its objects are both pure assumptions, and quite gratuitous after the author has said, "self-conscious reflective thought is then our ultimate and absolute criterion," where he appears to accept Reflection as the critic, and ultimate inexpugnability on reflection as the criterion of truth; and yet he almost immediately afterwards rejects every kind of reflective test in favour of intuition, justifies the high value he attaches to the testimony of language and common-sense, because of the superior clearness and distinctness of direct thought (*i.e.*, intuition), of which he considers them products, and subjects Mr. Spencer's universal postulate to a special criticism, which takes the form of the sophism of the false infinite, thus, after Mr. Balfour:—A thing is true because we cannot conceive the opposite; but how do we know that this proposition is true? by the same warrant, because we cannot conceive the opposite; and so on *ad infinitum*. Unfortunately, it can be shown, by the same sophistical reflection back into an illusory infinite, that self-consciousness can never have begun to be, since we cannot know without knowing that we know, and so *ad infinitum*. But this is not serious criticism worthy of the conciliator of common-sense. Another way the author has of

meeting Mr. Spencer's test of inconceivability, is by affirming the conceivability of the unimaginable. "I cannot imagine my own annihilation, but I can conceive it!" he says, not observing that in conceiving it, "I" remain and am. Yet when it is said that "conception is not tied down to experience, though imagination is," one can well believe it, if one has already accepted the "objective concepts"; but it will be incredible, if one sees that concepts are only images in outline waiting to be filled in. Throughout this dialogue on certainty, it may be noted that "objective" is taken to mean "noumenal," objects are confounded with things-in-themselves, and such words as "being," "existence," and "things" are freely used, but left undefined, as if we all knew and were agreed on what they meant. By a curious argument, memory is made to witness to our knowledge of noumena or absolute certainties; for "it enables you and me to know events that once really happened, and to recollect objects separated by more than a quarter of a century's interval from our present consciousness. We thus know real existences, which are objective or external to us, but of which our senses can tell us nothing." But *did* they tell us nothing? And what are these "objects" and "events" in memory but representations of what was once presented in sense-perception? Memory has not carried us beyond the circle of phenomena.

(2) We are thus brought to the edge of the second affirmation. that we can have a certain knowledge of "an external world existing independently of ourselves such as physical science postulates". By this an unphenomenal world is meant, and the relativity of knowledge is denied, for we have absolute knowledge of the world as it absolutely is. The world is representative, but to represent means to "*make the thing present*," and so we have direct vision of the world-in-itself with all its absolute primary qualities, and even its secondary qualities, like "objective sound," and with an immediate assurance of its truth and being by intuition. What we perceive without or against our will gives us this world-in-itself; as if the presence or absence of the feeling of effort in the complex of a percept made it more or less than a phenomenon. For the most part, Berkeley is met with the mere counter-assertion of the noumenal existence of phenomena, as "unthinking substances, and things-in-themselves," but the author also uses against him the distinction between conception and imagination, where he says "I cannot imagine a thing existing unperceived by anybody, but I certainly can conceive it," and so we have "an apprehension of external objective conditions of real independent bodies," *unlike* the sensations and relations between sensations, on occasion of which we intuit them! Admitting that Berkeley is irrefutable, so far as *ordinary* experience goes, if the position of Locke and Kant is granted that our percepts are compounded of "our own ideas and sensations only," Mr. Mivart simply contents himself with denying that premiss,

and begs the question. But even allowing it, he thinks that phenomenalism is not so compatible with *scientific* experience and thought, for these require us to believe that "the numbers, shapes, solidities, and motions of bodies," and even their secondary qualities, "really exist objectively"—*i.e.*, absolutely and in them; and so science postulates unphenomenal phenomena, and there is no difficulty about it, for, even admitting Lewes's "greeting of the spirit," our intellect has power to subtract this subjective element, and concentrate its gaze on the pure noumenal *residuum*. It is not easy to see why Mr. Mivart sets his face against a mitigated idealism like Berkeley's or Ferrier's, which offers him the most plausible ground for postulating a Universal Consciousness, unless it is the fear of consequences and logical issues.

(3) The third position is carried by a *tour de force*. It is only necessary to posit an "innate power" and faculty of pure intellectual apprehension of absolutely necessary and universal truths, seen to be such by their own evidence. It is not that universality in experience gives the feeling of necessity, as when poor F. says of such invariables, "They certainly do strike me as true for all the times and places *I can think of*"; although Mr. Mivart admits that association and "custom" may be the divinely appointed occasion of our apprehending absolute truths. Causality or "influx" is one of these truths, known by spontaneous intellectual intuition; and this without any sense-mediation in the case of "the inflow of the influence of motives upon our will". "Goodness" is another, *sui generis*, absolute, self-justified, underived, and intuitively discerned. So too "oughtness" is "unanalysable," and "moral" means inexplicable. Pleasure, interest, happiness, and "moral sentiment" are at the most mere accessories or coincidents. Possessed of such absolute cognitions as these and their issue, language, man has his origin and nature secured against Darwinian and evolutionary assaults. Here Mr. Mivart is very positive about what animals can and cannot do (pp. 165-6), and about Darwinism, which is a "superstition" reposing neither on reason nor evidence, but on "ignorance of what reason is, and, above all, ignorance of the meaning of the word 'goodness'," and so Darwin's derivation of man and his speech and morals falls to pieces, chiefly because he could not define the undefinable. But, if possible, the Agnostic doctrine of relativity is more "extremely pernicious" and "foolish".

(4) We have now a supernatural anthropology *in ovo*, and are prepared for the last position; and it only remains, as a preliminary, to establish the soul. This is done by hypostasising the original synthetical unity of apperception, as soul, the substantial form or principle of individuation, in a way shown to be illegitimate by Kant a century ago (p. 185). It is an immanent principle, an immaterial entity that acts, directs, controls, unifies, organises (p. 189), and yet it is not "a numerically distinct something," is only the living body from a dynamical point of view, the sum of

its energies (p. 188), and apart from the body "an abstraction"! It is, in fact, a bundle of these and other contradictions. All living plants and animals are souls, and there is no *hiatus* except two, one between the unliving and life, the other between the highest merely animal life and man. Such things "we know most intimately," and it is enough to simply affirm them. The human soul is immortal, because "*in a sense*" out of space and time (p. 225), and transcends while it pervades the body, for (p. 227) intellect and will are not immersed in the body, and are without organ! All this appears as pure free play of the imagination, without a particle of real proof, but it is a postulate of the theodicy, which requires a future life of rewards and punishments (p. 229); and there is yet another proof of immortality, namely, the soul's "power of intervening as a free cause, and modifying the whole chain of physical causation by a quasi-supernatural act of volition". This doctrine of Free-will is also a proper propædæutic to the doctrine of miracle, prayer, providence, and revelation (p. 223); free-will being itself a kind of miracle, for "my free volition is a truly *uncaused* action which intervenes in the course of physical causation, and alters the whole future of the universe for all eternity". Mr. Mivart brings forward nothing new in defence of free-will, which he finds in the usual way, by confounding the sense of incompulsion we sometimes have with an intuition of absolute origination we never have, and thus getting "a new force entirely distinct from the force of the motives," and yet—strange to say—acting "*in conformity* to our perception of duty"! In building up his theology, Mr. Mivart proceeds as if the Transcendental Dialectic had never been written. The world may be eternal, but it may be taken as one well-ordered whole, and then requires a cause of harmony. He does not show how we can think the totality, and assumes without proof that cosmos is a *fact* and a *contingent fact*, whereas chaos may be equally a fact, and neither may be absolute, while both may be eternal and necessary correlatives. When he is thinking of the world as a machine, it requires a transcendent *deus ex machinâ*, but at other times he is driven on to think of an immanent and pervading *anima mundi* (p. 200). The proverb, *Nemo dat quod non habet*, provides the self-existent absolute cause with abundant attributes, and the process of clothing culminates in anthropomorphic impersonation; while in another place "de-anthropomorphisation" goes on till even "existence" cannot be predicated unambiguously (p. 206). The author is an optimist because he is a believer in God, and he is a believer in God because he is an optimist (pp. 208-9). By another *circulus*, the divine goodness proves the future life, which itself depends on the divine goodness (pp. 244, &c.) The theodicy advances by minimising pain and evil in a way that is ungenerous when we are not the sufferers, by making good come out of and depend on evil, a manufacture that fails where there is no future life for the creatures, and by many

appeals *ad ignorantiam*—to the possibly stubborn nature of things, “the range of objective contradiction” or essential absurdity possibly limiting omnipotence, the inscrutability of the divine purposes, the “vast scheme of infinite beneficence” past finding out, the possible existence of intrinsic or “objective beauty” where men find ugliness, and so forth. In fine, theology and theodicy are the offspring of desire—“a desire that all that is highest and best—ideal perfection—should really exist,” and accordingly no one “could dare to be impartial, unless he would dare to be voluntarily and deliberately as impious as absurd”.

J. BURNS-GIBSON.

Hamilton. By JOHN VEITCH, LL.D., Professor of Logic and Rhetoric in the University of Glasgow. (“Philosophical Classics for English Readers.”) London and Edinburgh: Blackwood, 1882. Pp. 268.

One chapter (pp. 1-35) in this volume is devoted to biography: the remaining eleven are occupied with Hamilton's philosophy. The Psychological doctrines, the Nomology and the Ontology, are all fairly and, in the main, fully presented. But we miss the Logic. No small omission, everybody will allow: and we can only regret that “there was not space to do it justice”.

The doctrines and teaching of Hamilton himself, we are not, of course, here called upon to discuss. We are simply concerned with our author's presentation of them, and with his amplifications, amendments and corrections. And, first of all, we observe that Prof. Veitch is thoroughly alive to certain of the weaknesses of the Hamiltonian philosophy, and that he does not refuse to expose a defect when he puts his finger on it. Thus, he frankly acknowledges Hamilton's inconsistency in maintaining that Consciousness is coextensive with Mind, while at the same time upholding the doctrine of Mental Latency. He sees also and admits that, in his theory of External Perception, Hamilton laid an unwarranted stress on one single source of objective knowledge—Locomotion. And if we ask, How does Hamilton's doctrine of the immediate knowledge of the Ego in Perception accord with his other doctrine that we have no immediate consciousness of self at all, but only reach it mediately? he is ready with the answer, “I confess there seems to me some very considerable ambiguity in the doctrine of Hamilton regarding our knowledge of the Ego On this point of the mediate or inferential knowledge of the Ego, Hamilton cannot be said to be quite consistent.” There are, also, points in the Ontology that he considers inadequately expressed or erroneously conceived. But there are points in Prof. Veitch's own psychology that we cannot regard as altogether satisfactory: one or two of which we may now allude to. Grant, for instance, that Hamilton was inconsistent in his

doctrines of consciousness and mental latency, there is surely another way of getting over the difficulty than by impugning the fact of subconsciousness. It seems more in harmony with the evidence, to admit the fact and to extend the meaning of "psychical" or "mental" so as to include it; and if there is such a thing as thoughts "simmering" in the mind, and if Memory means with Prof. Veitch, as it did with Hamilton, the Conservative or Retentive Faculty,—“the power of retaining knowledge in the mind, but out of consciousness,”—this becomes absolutely imperative. Again, exception is taken to Hamilton's classing Desire with Will; on the grounds that Desire is, in its origin, more properly allied to Feeling, and, in its result, “a tendency pointing to one definite issue,—the realisation of the object or aim represented”. But, though it be indisputable that Desire in one aspect may be regarded as Feeling, it is no less evident that in another aspect it is one of the Active Principles of our nature—like appetite and instinct; and this last seems to give its distinguishing characteristic and to forbid our sundering it from Volition. At any rate, Prof. Veitch will carry few along with him when he proposes to erect it into a separate mental province, and to classify the phenomena of mind in the fourfold fashion—Knowledge, Feeling, Desire, Will. Once more, a word on the Perception problem. Undoubtedly, Hamilton exaggerated the power of Locomotion in supplying us with a knowledge of Body, and his doctrine of Natural Dualism ill consorts with the dictum of a mediate knowledge of self; but is there not at least one other flaw in his teaching equally worthy of notice and of comment? Why have we no *redding-up* (as Ferrier would say) of Hamilton's theory of the visual perception of distant objects? This, we had always thought, was a vital point in Hamiltonian Realism; and explanation is certainly required: all the more so as Bailey's exposure (and Bailey was himself a realist of the stanch type) has appeared to so many absolutely conclusive, and his arguments have not yet (so far as we know) been answered.

Next, as to the treatment of Mill. We hardly think that Prof. Veitch has made the most of this great adversary, even for his own purposes. Certain of his criticisms, indeed, are relevant enough and pointed enough; but others of them are little short of captious. There is scarcely argument in such phrases as “quibble,” “simple caricature,” “strained verbal interpretation,” &c.; and one has reason to complain that Mill has been positively misrepresented in the matter of Knowledge and Belief. Without question, Hamilton's use of the word Belief is altogether objectionable, and, what is more, he himself vacillates in the employment of it. In ordinary philosophical usage, we are said to *believe* what we have not an immediate experience of,—we *believe* on evidence adduced or on trustworthy and satisfactory testimony (memory, accredited authority, &c.); we *believe* as the result of probable (contingent) or analogical reasoning. But we cannot

rightly be said to *believe* either in an object "which I perceive now and here—in this time and this space," or, speaking generally, in "the original data of reason". And no one need be surprised if this abusive application should react unfavourably on the doctrine to be conveyed. It is quite a mistake, however, to suppose that Mill was ignorant of the particular signification that Hamilton attached to Belief, or that he allowed himself to be carried away by a mere verbal ambiguity. A careful study of the short quotation from his *Examination* on p. 118 (to go no farther), and an impartial comparison of this passage with the longer one from Hamilton on the page immediately preceding, will, we presume, lead most readers to a different conclusion from Prof. Veitch's. At all events, it appears to us that Mill has here presented the Hamiltonian doctrine very fairly and succinctly, and that his criticisms have both relevance and force. Nor has strict justice been done to Mill on p. 160, where a close examination of the phraseology would show that there is nothing so very ludicrous in the idea of "a present knowledge of the object represented, as a condition of the representation"; and, on p. 232, a protest may be entered against the criticism founded on the wording of the first edition of the *Examination*, while the amendment of the fourth edition is relegated to a foot-note,—and that although the amendment goes far to meet the criticism of the text and deprive it of its edge.

A word on Hamilton's erudition. That this was very great, indeed vast, is beyond all question; and it is generally agreed that there have been few men in any age or in any country so well equipped for the task of writing a history of Philosophy as Hamilton. Indeed, the complaint is that he wasted his energies in editing Reid, when he might have been better and more profitably employed; and with just reason may our author speak of his "extraordinary research" and of his work as "wholly without a parallel in Britain". But we all know that Hamilton had a knack of turning his learning against an opponent in a way not altogether to be commended. The only refutation that he often found it convenient to give to an adversary was the proof that what he urged had been anticipated—that it was not new. As though the want of originality detracted from the strength of an argument! We had expected a gentle reference to this from a disciple so loyal, yet so discriminative, as Prof. Veitch.

WILLIAM L. DAVIDSON.

Linguistic Essays. By CARL ABEL, Ph.D. London: Trübner, 1882. Pp. 265.

In his *Koptische Untersuchungen* Dr. Abel has long been known not only as one of Lepsius's most distinguished pupils, but as a prominent leader of the "Junggrammatische Schule". In the pre-

sent work he endeavours to show that a thorough-going study of language must be no mere formalism, but rather a philology in the sense of a comparative national conceptology. Instead of discussing grammatical questions according to parts of speech, Dr. Abel makes a systematic attempt to realise the psychological value of the lexicon and to connect grammar and dictionary by conceptual ties.

"If language is ever considered as an object of psychological study, and every language regarded as reflecting a complete and peculiar view of the world, a different method will have to be pursued in analysing its contents. Grammatical forms will have to be classed not only according to the part of speech in which they occur, but also in harmony with what they imply. Any one notion indicated by grammar, instead of being studied separately in each part of speech to which it ministers, will have to be traced through all the various forms embodying it, and confronted with the independent words of the language exhibiting the same idea. To make the parts of speech the only class-heads of grammatical study is to hide the thoughts of a people under the mere form of their words, and impede the investigation of the multitudinous concrete by the exclusive consideration of one, and this the most abstract, feature of speech."

Hitherto, students of language have, for the most part, been engaged in seeking and formulating the laws of phonetic changes, but a far more important study is that of the laws of conceptual evolution as manifested in the rise and fall both of word-meanings and grammatical forms. How are concepts generated and concatenated? How are impressions co-ordinated? These are the questions that interest the psychological student of human speech, and it is because Dr. Abel believes that the signification of words and forms reflects a nation's general view of mind and life, and carries on his researches upon the basis of national and international linguistic analysis, that we gladly recommend these thoughtful and attractive Essays to the readers of *MIND*. Students of English especially may be congratulated upon a contribution to their branch of knowledge which combines no ordinary amount of empirical tact with a degree of *Sprachgefühl* unusual even in the Germans themselves.

The first four essays deal with the psychology of the dictionary. In "Language as the Expression of National Modes of Thought" it is pointed out how, strictly speaking, translation from one language into another is not only difficult but well-nigh impossible. The German 'Freund' is not the French 'ami,' nor is 'decision' equivalent to 'Entschluss'. On going into a strange country and adopting another language we cannot precisely render our old ideas by the new words, nor can we help the new words unconsciously changing our opinions. The English dictionary is singularly rich in words denoting various shades of colour, whereas the German is remarkably poor. "Tints which in German only he who has an exceptional eye for colour can distinguish, and then has to describe by paraphrase out of his own head, are in England recognised as of course, and in con-

sequence named with special words." It is, we think, generally admitted that accurate observation of natural phenomena is more prevalent in England than in Germany.

Employing the method of concomitant variations, Abel seeks to show how changes in idea and feeling uniformly accompany the successive stages of linguistic progress. The Hebrew, Latin, Russian, and English words for 'love' are analysed so as to display each nation's concept as a separate system of feelings and thoughts, to be compared with the concepts of other nations. Synonyms are carefully discriminated by this able investigator and the English verbs of 'command' are classified according as the purpose is defined or not, binding or otherwise, &c. The question of *desynonymisation* is engaging the attention of English philologists just now, more especially in connexion with the Philological Society's Dictionary. If "il faut savoir la grammaire et connaître les synonymes lorsqu'on veut être roi de France," it is also necessary to know the conceptual interdependence of grammar and lexicon in order to become master of a language.

In the essays on "Philological Methods," and "The Connexion between Dictionary and Grammar," we see in what way Dr. Abel is endeavouring to establish Comparative Lexicography as a sister-science to Comparative Grammar.

"The psychological method is not content to take etymological and syntactical forms as starting-points for linguistic research. Only if every notion in the lexicon is likewise made the point of issue for special inquiry is language adequately apprehended. If the notion is abstract enough to admit of also being expressed by grammar, etymology and syntax will be needed to throw light upon it, as well as semasiology. If it is concrete, semasiology will have to be chiefly consulted; but etymology and syntax will have to be called in likewise to account for the form of the word, and illustrate its meaning by derivation and use. . . . To successfully carry out the psychological treatment of the lexicon we shall have to confront whole groups of words, in contra-distinction to the old synonymical method, which compares only a few nearly allied words. For the various aspects of a notion to be collectively represented in the array, a sufficient number of illustrative shades must be taken. . . . By interpreting the German terms of causality, 'Grund' and 'Ursache,' very little is known of the Teuton view of these fundamental notions. To really understand them it is necessary, besides investigating many other substantives, to consider the particles 'weil,' 'warum,' 'wodurch,' 'wieso'; the prepositions 'durch,' 'mit,' 'von'; the verbs 'machen,' 'schaffen,' 'wirken'; the subjunctive as implying cause; the Gothic and Old High German instrumental case and much else that is relevant."

This treatment of the lexicon seems to us imperfect owing to the non-recognition of the principle of antithesis. If we want to know what the English understand by 'forgiveness' it is not enough to say 'pardon,' 'condonation,' 'grace,' 'remission,' 'absolution,' 'amnesty,' 'oblivion,' 'indulgence,' 'reprieve,' 'conciliatory,' 'unresented,' &c.: we must take into account their opposites—'revenge,' 'rancour,' 'ruthlessness,' 'vindictiveness,'

'implacability,' 'avenger,' 'Nemesis,' 'Eumenides,' &c. Again, in many cases, as Roget has well shown, two ideas which are mutually opposed, admit of an intermediate or neutral idea, equidistant from both, and these must be known before the concept is fully gauged. For instance:—'identity,' 'difference,' 'contrariety'; 'beginning,' 'middle,' 'end'; 'past,' 'present,' 'future'. Sometimes the intermediate word is simply the negative to each of two opposite positions:—'convexity,' 'flatness,' 'concavity'; 'desire,' 'indifference,' 'aversion'; or, the standard with which each of the extremes is compared, as in 'insufficiency,' 'sufficiency,' 'redundance'.¹

The essays on "Coptic Intensification" and "The Origin of Language" are based upon what Dr. Abel considers the irrefragable evidence adduced in his *Koptische Untersuchungen*, which, he thinks, will permanently influence our views of primeval language. In the *Cratylus*, Plato would have us understand by *μίμημα τῆς φωνῆς* not merely onomatopœia, but a consistent sound-symbolism, which attributes conceptual significance even to individual letters. And the Coptic grammarian of to-day, "though he has to content himself with determining a few vowels, saves the theory by establishing it on a historical basis". But it is a mistake to style the ninth essay "The Origin of Language"; it should rather have been called "Characteristics of Primitive Speech". From a psychological point of view it is by far the most important of Dr. Abel's studies, but we cannot do more here than point out the salient features of the question.²

On first looking into an Egyptian dictionary we are struck by the fact that almost every sound may have any meaning (Homonymy) and, conversely, nearly every meaning may be expressed by any sound (Synonymy). 'Ab,' for instance, means to dance, heart, calf, wall, to proceed, demand, left hand, figure; whilst 'to cut' is expressed by more than thirty different sounds. And this is not all. We find in Egyptian three forms of linguistic antithesis, that of *sound*, of *sense*, and of *sound and sense*. *E.g.*, (a) Inversion of sound: *teb-bet* fig; (b) Inversion of sense: *ken* strong-weak; (c) Inversion of sound and sense: *so's* becoming, *'ses* unbecoming.

How are we to account for this? We feel at once that this is a class of linguistic phenomena which can only be explained by the application of the psychological method. At first sight, such a state of things would seem to involve unintelligibility.

The occurrence in so many languages, notably in Arabic, of

¹ [Cf., the Article on "The Logic of Dictionary-defining," by Rev. W. L. Davidson, in *MIND* XXII., 212-31. Ed.]

² The present writer hopes to treat the subject at length in an early number of the *Zeitschrift für Völkerpsychologie und Sprachwissenschaft*, when he will propose a classification of primitive linguistic phenomena upon a psychological basis.

words with polar meanings cannot be explained by fortuitous Homonymy, but must result from the principle of universal Relativity. Thinking being a synthesis of thesis and antithesis in rapid alternation, we should not be surprised to find polarity in the expression characteristic of early mental life. As Prof. Bain (*Logic*, i. 54) well says:—

“The essential Relativity of all knowledge, thought, or consciousness, cannot but show itself in language. If everything that we can know is viewed as a transition from something else, every experience must have two sides; and either every name must have a double meaning, or else for every meaning there must be two names. We cannot have the conception ‘light,’ except as passing out of the ‘dark’; we are made conscious in a particular way by passing from light to dark, and from dark to light. The name ‘light’ has no meaning without what is implied in the name ‘dark’. We distinguish the two opposite transitions, light to dark, and dark to light, and this distinction is the only difference of meaning in the two terms: ‘light’ is emergence from dark; ‘dark’ is emergence from light. Now, the doubleness of transition is likely to occasion double names being given all through the universe of things; languages should be made up, not of individual names, but couples of names.”

It must not be forgotten that, in Egyptian, every word is first written by letter, and then explained by a supplementary picture, pointing out the order of conceptions to which the word belongs. When *ken* is used for ‘strong,’ we find behind the alphabetically written word a picture significant of strength; in the same way we may always know when the word stands for ‘weak’ from the accompanying illustration indicative of weakness. And what the picture was to the written word, gesture and expression-reading were to the spoken word. If, as is most probable, the root, or perceptual reflex, was repetition of a syllable, then *ken-ken* would be ‘strength-weakness,’ and *ken* alone would be ‘strong-weak’. A differentiation would be *Ruhe-hurry*, &c., metathesis of sound for inversion of meaning.

In conclusion, we would express the hope that Dr. Abel may find many fellow-workers in this new and promising field of research.

H. M. BAYNES.

Geschichte der Ethik in der neuern Philosophie. Von FRIEDRICH JODL, Privatdocent der Philosophie an der Universität zu München. I. Band. Bis zum Ende des 18. Jahrhunderts; mit einer Einleitung über die antike und christliche Ethik. Stuttgart: Cotta, 1882. Pp. xii., 446.

Herr Jodl's work, of which the first volume is now published (*cf.* MIND XXVIII., 606), promises to be a valuable contribution to the history of ethics, and a valuable aid to ethical study. To a large extent its value is due to its definite and restricted aim. Much that usually goes under the name of ethics finds no place in

it. The detailed treatment of the virtues and the application of moral principles to conduct, the consideration of which forms so large a part both of ancient and modern ethical works, are here omitted; so that the author has had grave doubt whether his work "has a right to be called a history of ethics" at all. But the book really gains by this omission; for an opportunity is thus given of bringing into clearer light the more fundamental questions of ethics—the question as to the nature of morality, and that regarding its origin. To trace the way in which these two questions have been dealt with in modern philosophy is Herr Jodl's aim. His book thus occupies ground distinct from that covered by such works as those of I. H. Fichte and Vorländer. Leaving to these writers to trace in detail the way in which ethical questions have been dealt with by different moralists, Herr Jodl attempts to exhibit the progress of philosophical views regarding the foundation of ethics and the origin of moral ideas.

The initial difficulty that attaches to any history of ethics is of course not overcome by this method. That difficulty arises from the fact that an author's ethical doctrines naturally depend upon his metaphysical or at least theoretical standpoint. Hence the principles of ethics cannot be properly explained apart from theoretical philosophy; so that a historian of ethics, who attempts to treat his subject apart from metaphysics, is in danger of leaving its fundamental principles in obscurity, while, if he attempts to make them clear, his tendency may be to expand his work into a history of philosophy in general. It would be too much to say that Herr Jodl has hit the happy mean between the two extreme courses—entered sufficiently upon theoretical philosophy to make his principles clear, without ever discussing it for its own sake. His tendency indeed is to treat ethical as too much independent of general philosophy. He even contends expressly in one place (pp. 356-7) for the complete independence of ethics: "a science of ethical principles is possible (he says) independently of all metaphysical and theological constructions". And to a certain extent this is no doubt true. So far as theology is concerned, when it is connected with ethics at all in modern thought, it is usually by being made dependent on morality and not conversely. And there are undoubtedly developments of metaphysics which have no essential and direct bearing on ethical questions. Herr Jodl however means more than this; the ethical agreement of Leibniz and Spinoza being brought forward to prove the independence of ethical principles on an author's metaphysical or speculative view of things. But with regard to this, it is evident, in the first place, that the same general doctrine of ethics may be quite correctly deduced from speculative principles which yet differ from one another in metaphysically important respects, just as the same physical effect may equally well result from either of two or more possible causes; while, in the second place, were this not the case, ethical harmony but metaphysical discrepancy between

the principles of Leibniz and Spinoza might only prove the inconsequence of one of these philosophers, not the disconnexion of ethics and metaphysics. An answer to the inquiry into what is moral, *i.e.*, into what is good or best in human action, implies a view of human nature both rational and sensitive and of the ends it is fitted to subserve. We cannot determine the end without first of all studying the organism of which it is the end; and the study of man implies the study of reason, man's distinctive characteristic. Hence the inseparable connexion of metaphysics as the theory of knowledge with ethics as the theory of action, and the dependence of the latter on the former.

More than any other historical development, perhaps, English ethics is independent of expressed metaphysical views, and to it nearly one half of the present volume is devoted. The points in dispute among the English moralists of the 17th and 18th centuries were expressly points of moral philosophy; and we seem able to trace the succession of moralists almost without reference to their speculative opinions.

After introductory chapters on ancient and medieval ethics and on the beginnings of independent ethical inquiry in modern philosophy, Herr Jodl proceeds to trace the development of English and Scotch ethics from Hobbes to Adam Smith, the subsequent and concluding chapters of the volume being devoted to the ethics of the Cartesian school in France and of the French *illuminati*, and to the two developments of Cartesianism, Spinoza and Leibniz.

The treatment of the English moralists is in many respects the most interesting part of the volume. Till recent years some of the most characteristic systems of English ethics had been almost unknown in Germany. Butler especially was treated there with even greater neglect than was for long Shaftesbury's lot among ourselves. Even in I. H. Fichte's work, the former receives no mention at all, and in Vorländer he is dismissed with three pages to Bolingbroke's fifteen. Herr Jodl shows more sense of proportion by omitting the latter altogether and restoring the former to his rightful place as, along with Shaftesbury and Hume, the greatest of English moralists. By his clear and judicious account of this whole period, Herr Jodl does much to supplement the work begun by Giżycki's excellent monographs. He describes the leading features of the various ethical theories and controversies, and shows how the inquiry into the foundation of morality gradually gave place to that into the origin of moral ideas and judgments, till in Adam Smith—who, with finer analysis than any of his predecessors, discussed the psychological process by which ethical judgments arise—the question as to the objective basis of morality was altogether avoided (p. 250). But, just on this account, Smith's fine analysis of the moral feelings leaves him without any answer to Herr Jodl's first question—What is the moral good? For he shuns the inquiry into the moral

standard in accordance with which his ideal "disinterested spectator" forms his moral judgments.

On the whole Herr Jodl is perhaps not quite free from the leaning usually attributed to German writers towards a one-sidedly empirical interpretation of English thought. And this leaning is hardly justified by the interesting contrast it enables him to draw between English empiricism and the rationalistic movement as typified in Spinoza. Thus in discussing Shaftesbury, there is a tendency to minimise the rational element in his system. His "moral sense" is interpreted throughout as merely sensitive; and this has certainly the advantage of giving him a consistent theory. But at the same time it takes away from the force of his argument against Hobbes in favour of disinterested affections, and is even opposed to some of his own utterances. "Shaftesbury speaks indeed in various passages," Herr Jodl allows (p. 172), "of the reason in opposition to the imaginations and fancies of men, of the necessity of keeping them in restraint, and of man being more rational as this is more strictly done." But this "reason," according to our author, "is merely the sum of a man's reflex affections, the sum of the previous expressions of his 'moral sense'." Shaftesbury, however, goes further than this; for it is only through the rationality of men that the reflex affections forming the "moral sense" are possible, and they are distinctly spoken of as "rational" (*Inquiry*, I. ii. 4). To say, as Herr Jodl does, that according to Shaftesbury "the ethical does not arise from reason, but from a natural feeling, an inner impression, and is therefore not 'rational' but 'sensational,'" is to make his doctrine consistent at the expense of calling "not 'rational' but 'sensational,'" what Shaftesbury himself calls not "sensitive" but "rational".

With regard to the standpoint from which Herr Jodl looks on the general progress and tendency of ethical systems, it seems better to delay criticism till the completion of his work has fully explained its method and point of view. At present, this first volume may be recommended as a clear and suggestive treatment of the period it covers.

W. R. SORLEY.

Ueber das Wesen und die Bedeutung der menschlichen Freiheit und deren moderne Widersacher. Von HUGO SOMMER, Amtsrichter in Blankenburg am Harz. Berlin: Reimer, 1882. Pp. 100.

The doctrines set forth in this volume are derived from Lotze, who is regarded by the author as having in the history of modern philosophy a relation to Kant which is like the relation of Newton to Kepler in the history of astronomy. Lotze has proved that all knowledge must necessarily be, as Kant showed that it actually is, subjective. But all experiences

are events, and not, as Kant supposed, "expressions of a changeless inactive existence" (p. 10). Every experienced change is a change of the *whole* being. In the decisions of the will, therefore, we may study the whole nature of man. "The specific character of a decision of the will consists in the free choice among several motives offering themselves at the same time to consciousness" (p. 12). By developing all that is implied in the fact of freedom, we find that our life is bound up with all other changes that take place, with the whole process of change in the universe; that the "world-process" has a single end which is a good of absolute value; and that the specific nature of our existence consists in this—that it has an end which is our highest good, and which is of absolute value because in working towards it we are promoting that good which is the end of the "world-process".

It will be evident from this sketch that the author discusses not merely the question of the freedom of the will, but all the principal questions of philosophy. The object of his able exposition is indeed to show that a system of philosophy may be constructed by "harmonising with one another and with the rest of our knowledge" the results of an investigation of "the fact of freedom" (p. 17). The chapter containing the fundamental ideas of this system (pt. i., ch. 2) is preceded by a chapter in which the general conception of freedom is fixed.

Freedom "in its positive sense" is the capability of self-determination according to internal motives, and not a "causeless self-determination". The practical needs of life did not supply any occasion for the formation of this conception, but they caused "a negative conception of freedom" to be formed. Freedom in the negative sense is the capability of holding ourselves free from motives that are contrary to our true nature, that is, to our nature as moral beings. Since men are very often influenced by motives that are not in accordance with their true nature, freedom has come to mean, by an inadvertent extension of the negative conception of it, freedom from all motives whatever, and its positive sense has been forgotten. An entirely false notion of freedom has thus formed itself,—that of a "causeless self-determination" which, as immediate experience proves to us, is impossible. But this is not the true idea of freedom; determination according to motives, instead of being contrary to the freedom of the will, is an essential condition of it.

By observation of what takes place in ourselves, we may discover all that is implied in the fact of freedom. Every internal experience is pre-eminently one of feeling, thought, or will. But no experience consists simply in one of these things; all three elements—feeling, thought, will (Fühlen, Vorstellen, Wollen)—are present to a certain extent in every experience. When we will anything, for example, there is always present in more or less intensity the thought of what we ought to do, and the feeling that there is something which we ought to do. But

here, as in all experiences, feeling is the central element. Ideas of what it is that we ought to do have changed in the course of history, but the feeling that there is something which we ought to do has always been present. It is therefore in the feeling of moral obligation that we discover our true nature. But that which we ought to do is felt by us to have an absolute, not a merely relative value. Now there cannot be anything of *absolute* value unless everything that happens in the universe is directed towards a single end; and that only can be of absolute value which either itself makes part of this end or has for its specific character the tendency to the realisation of it. Thus we are led to the teleological view that has been described.

But this view requires further development before it can become a philosophy. As a preliminary to this, there is a discussion of the questions "In what does the truth of our knowledge consist?" and "What is its criterion?" (Pt. i., ch. 3.) It is concluded that truth does not consist in any kind of correspondence between our thoughts and the things outside us, but in a character that belongs to our mode of putting together our internal experiences. Our thoughts are true when their nature as internal events is understood, when they are placed in logical relations to the rest of experience. The criterion of truth is the feeling of the universality and necessity of ultimate axioms.

The problem that remains is, to find a centre for the positions that have been laid down. This centre is found to be the conception of the Absolute (*das absolute Weltwesen*)—a conception which can only be satisfied by the idea of "a living personality". (Pt. i., ch. 4.)

Immediate experience, according to the author, is the source of all our knowledge. But all experience is referred to ourselves as conscious beings. To exist is to be conscious of existing. If, then, there is a single highest being, which is the ground of all reality, this being must be conscious. By looking at experience more closely we shall obtain a clear view of the relations of the absolute being to individual beings and of these to one another.

Internal events for the most part are not spontaneous. They must therefore be caused by other beings. The chief problem of philosophy since Descartes has been to make this "reciprocal action of beings" conceivable. Lotze was the first to solve the problem. His solution enables us to infer from the fact of reciprocal action that only a single conscious being can be the real ground of everything that exists; that the reality of all individual beings in the universe can only consist in modes of the self-consciousness of this one being. For Lotze's solution of the problem is this:—that any change of state in any particular being is at the same time an agitation (*Bewegung*) of the substance that forms the ground of the existence of all particular beings, an agitation which, since it reverberates more or less strongly (*schwächer oder stärker wiederklingt*) in all other beings in the

universe, may appear as a corresponding change of state in any one of them. And this explanation is meaningless unless we suppose that the "Weltsubstanz," the ground of all reality, is a conscious being.

The idea at which we have arrived is in its present form too abstract. But we have seen that the process of change in the universe considered as a whole has an end of absolute value. Now an end of absolute value can only exist for a personal being. We must therefore add the idea of personality to the idea we have already reached. It is true that we are ourselves persons, and that we are limited beings; but personality is not in itself a limitation. And the conception of a perfect personality, when life has been given to it by means of the religious sense, no longer remains an empty form.

In the Second Part of his book Herr Sommer discusses the chief objections to the doctrine of free-will. He maintains that the objection that freedom is inconsistent with the law of causation disappears when for "causeless self-determination" is substituted "the true *positive* conception of freedom, the capability of determining oneself to an act of will according to internal motives" (ch. 2). Since our will itself and our whole nature belong to the universal order of things, freedom cannot be a contradiction of this order (ch. 4). Kant's doctrine of freedom is discussed in this division of the book, and his position in the history of philosophy is reviewed. But most space is taken up by an examination (1) of Modern Materialism, (2) of the philosophical views of Schopenhauer and Von Hartmann.

The Kantian criticism led to the theory that reality is to be found in subjective experience, but Kant himself was prevented from completely developing this view by his separation of phenomena from things-in-themselves, and by his position that the thing-in-itself is unknowable. His doctrine of freedom, in the form in which he has expressed it, is contradictory. But Kant's true view of freedom is outside the contradictions of his system. It is to be found in his definition of "practical freedom" as "independence of the will on everything but the moral law alone". This doctrine of practical freedom remained defective only because Kant did not formulate his moral principle in a perfect manner. If he had not neglected immediate experience he would have seen that in the highest sense happiness and morality are correlates. But he described correctly the nature of moral freedom; and one of the causes to which we may ascribe the appearance of exaggeration in the principle of the categorical imperative is a justifiable opposition to the "rationalistic eudæmonism" of the century.

In the chapters on "The Objections of Materialism" and on the philosophy of Schopenhauer and Hartmann, Herr Sommer's method is to criticise the leading principles of each system with a view to showing that the fact of freedom and its significance

cannot be rightly understood by those who adopt these principles. He analyses successively the conceptions of matter, force, space, time and law in order to prove that materialism has no philosophical coherence; that it "is only a theory of the appearances of reality in the world of representations, not a metaphysic of the reality itself" (p. 66). The materialist has no place in his system for freedom, because it is not part of the mechanism of the world of appearances. Those characteristics of modern life to which materialism owes its popularity—estrangement from ideals and the desire for simple explanations of things—have determined the form of the philosophical systems of Schopenhauer and Von Hartmann. The philosophy of Schopenhauer is founded on his doctrine of will. If, therefore, we see reason for rejecting this doctrine, we must reject his philosophy as a whole. Now the will, as we know it in experience, has definite characters, which are inconsistent with the conception of will as the thing-in-itself, and also with that which Schopenhauer imagined as the content of his conception of "will". Besides this, the actually perceived world of phenomena cannot be explained from Schopenhauer's point of view. Through separating phenomena from things-in-themselves he is led to regard every act of the will as determined and at the same time absolutely free. It is a merit of Hartmann to have rejected Schopenhauer's conception of a causeless freedom. He has understood the nature of freedom on the formal side; but his view of it is defective because he has not understood what is the essential character of man: the motives he takes into account are too few and too simple; for the will as we know it in experience is conscious, and is characterised by the (more or less intense) feeling of moral responsibility which always accompanies it.

The philosophical theory developed by Herr Sommer is, as he says himself, constructed "on an ethical basis". The defects of this mode of philosophising become most apparent in the last chapters of the volume. In the criticism of materialism, for example, the materialistic view of the world is condemned not simply on the ground of its bad metaphysics, but also because it does not supply any test of the moral worth of that which exists. And in the chapter on the philosophy of Schopenhauer and Von Hartmann it is contended that these philosophers have no right to apply the term "pessimism" to their "nihilistic" view of things, on the ground that their theoretical philosophy does not admit the conception of a better and a worse (p. 76, note); though it seems clear that this term refers only to their view of things in relation to the happiness of mankind. It is true, as Herr Sommer remarks in his preface, that all theories of the world are necessarily from the human point of view. But that the human point of view is not exclusively the ethical point of view may be shown by considering again the classification of experiences into those of feeling, thought,

and will. Although (as has been said) each of these three kinds of experience has an element of the two others, and although feeling is always the central element, yet the selection of a decision of the will as the primary experience from which a philosophy is to be thought out seems a little arbitrary, when we consider that the central feeling may not be identical in the three cases; and further reflection shows that it is really one of these other kinds of experience that ought to have been selected. For philosophical contemplation is distinctly an *intellectual* state of mind. Now the central emotion present in those kinds of experience that are pre-eminently intellectual is not ethical in its character. It is of its own kind, just as much as the ethical emotion; it is sometimes called 'curiosity,' sometimes 'the love of truth for its own sake'. This is the emotion in which philosophy has its origin; the desire to find moral meanings in things is merely a perverting influence.

The influence of the ethical point of view is, however, not perceptible in all parts of Herr Sommer's book. The doctrine, for example, that reality is to be found in subjective experience, is beyond the influence of ethical considerations. But why should the term "thing-in-itself" be entirely rejected in the statement of the last results of metaphysics, as it is by Herr Sommer and by other writers who accept this doctrine? According to the view they take, there is a sense in which the external world, when it is distinguished from that which is fundamental in subjective experience, is an illusion. Probably they would say that they prefer to express this distinction by some other term because the term "thing-in-itself" has been regarded as the name of something "unknowable". But this is an accident, not an essential part of the conception of things-in-themselves. And if, by bringing the doctrine of "the subjectivity of knowledge" into relation with Kant's application of the term "thing-in-itself" to a reality outside the individual mind, we can arrive at a consistent metaphysical theory, this, on the other hand, is an argument for retaining the term.

Herr Sommer's conclusions as to the existence of an absolute being and as to the attributes of this being, could not be drawn from the doctrine of the subjectivity of knowledge without the help of an assumption with regard to the *form* of all experience. This assumption is that analysis cannot resolve self-consciousness into anything simpler. Now if such an expression can be found for the form of experience that self-consciousness is seen to be a special manifestation of it and not its universal character, there can be no philosophical proof of the existence of the Absolute otherwise than as the conception of an ideal limit of the development of the human mind.

The doctrine of free-will, as it is understood by Herr Sommer, is not indeterminism. The only defect in his treatment of the will is the tendency to take it as an ultimate fact; and this would

not be of much importance if his account of it were regarded as a foundation for ethics rather than for philosophy generally. But his treatment of Schopenhauer's doctrine of will is inadequate. He shows conclusively that Schopenhauer's "will" is not the will as we know it. But he passes over the question whether "will" in Schopenhauer's philosophy may not be an expression for a primitive element in mind which is disclosed by analysis.

The explanation of Herr Sommer's use of the term "freedom" may be found in the first paragraph of his Introduction. He speaks there of freedom as "the specific expression of the true nature of man," and says that the need of free development has grown in all nations in proportion as their civilisation has become higher. Thus it is evident that he means by freedom first of all what is ordinarily meant by it, that is, freedom from external constraint. But he adds to this the idea of something positive, of that "spontaneity" which it will always be necessary to distinguish in some way from merely mechanical action. Further, in order that we may be "practically free," this spontaneity must manifest itself under a specifically human form; that is, its mode of manifestation must be determined by "an inner rule," the moral law. But why should this freedom be ascribed to the will? This is explained when we consider that spontaneity may manifest itself in action of some kind, and that conscious will is always present in action of the kind that is specifically human. Thus, when we are speaking of action, freedom, explained in this way, might be called "freedom of the will". But after all it does not seem desirable to make use of the term even in this sense. For if we grant that associations with indeterminism might be got rid of, the objection still remains that to identify human freedom with free-will in any sense would be to take a restricted view of the nature of freedom; seeing that "spontaneity," in a specifically human form, manifests itself in art and in thought just as much as in action.

T. WHITTAKER.

VIII.—NEW BOOKS.

[These Notes do not exclude Critical Notices later on.]

Evenings with the Sceptics, or Free Discussions on Free Thinkers.

By JOHN OWEN, Rector of East Anstey. 2 vols. London: Longmans, 1881. Pp. 464, 516.

By an extremely liberal construction of what Scepticism is and includes, Mr. Owen has bound together, with a connective tissue of conversations after the manner of *Friends in Council*, a series of biographical studies of men who had very little else in common than a more or less persistent love of thinking for themselves, and has succeeded in presenting us with the first instalment of a very interesting if somewhat miscellaneous book, which in several respects at least justifies his expectation of filling up a gap in the history of philosophy in English literature. His wide definition of Scepticism when spelt with a "k," as sustained search with as much suspense as is needful, allows him to select the materials of his history from the promiscuous mass of inquiring minds who have sought truth in all times by question, analysis, criticism and circumspection, without regard to whether they have remained in doubt, seeking and freethinking to the end, or have finally found truth and rest by alien ways like feeling, intuition, faith, acquiescence in authority, or the free play of imagination. Thus it comes that Parmenides, Democritus, and even Socrates and Plato are numbered with Pyrrho and Sextus Empiricus, and other thorough-paced Greek Sceptics; that the sketch of Hebrew and Hindu Scepticism comprises the drama of Job with its *dénouement* of miracle, Ecclesiastes closing with a categorical imperative, the idealism of Kapila, Vedantist mysticism, and Buddhist dogmatic nihilism; and that, in the 2nd Vol. on Christian Scepticism, Augustine, Erigena, and Aquinas are reckoned typical doubters as well as Abelard and Occam. It is difficult to understand on what ground Mr. Owen has left any thinker—say, Aristotle or Duns Scotus—out of his list. At the most it can only have been with him a question of degree, and there seems no reason why we should not expect to find Kant and Hume, Hamilton and Mill, and with them all the moderns, in future volumes, as we are already promised not only Montaigne but Giordano Bruno. There might be much gained by a presentation of the whole history of philosophy with its sceptical side uppermost, and Mr. Owen's is an excellent popular essay in that direction, which is specially successful in demonstrating the corrosive and unsettling tendencies of the activity of Schoolmen, like Aquinas, who have been in general accounted dogmatic—

tendencies which, accumulating and finding a focus in Occam, constituted a leading factor of the Renaissance and Reformation. These studies do not profess to have been drawn from original sources, but while making use of the many monographs and histories extant, like Prantl's, Rousselot's, Hauréau's, and Stöckl's, it is evident, so far as I have been able to ascertain, that the author has in many cases and on most material points sought to verify their statements. That the paper on Occam is an understatement of his utter scepticism, will be apparent to any one who looks through the *Quodlibeta* and *Centilogium*, where Occam criticises the whole ecclesiastical dogmatic system in detail, taking it to pieces and crunching it up bit by bit, often with rough Rabelaisian humour, and always with Voltairean zest, and with the blunt outspokenness of an Englishman. And it is scarcely possible to take the mysticism, in which he finds a refuge from the charge of heresy, so seriously as Mr. Owen appears to do. When Occam tells us that what we cannot know and believe by reason, we may know and believe, or believe without knowing, by grace of infused faith—a gratuitous and arbitrary gift, he certainly places himself within the pale of the Church again *per saltum* and by magic; but the unedifying performance is more like a supple feat of ironical mystification than a sincere and cordial submission to the supernatural, and as a covert attack is even more injurious than the open one. By the dramatic setting of his work, Mr. Owen has undoubtedly succeeded in investing philosophical subjects “with a human, homely, and familiar interest”. [J. B.-G.].

The Greek Philosophers. By ALFRED WILLIAM BENN. 2 vols. London: Kegan Paul & Trench, 1882. Pp. xxxii., 402; xii., 430.

The author, who is known to the readers of MIND both otherwise and by his articles on “The Relation of Greek Philosophy to Modern Thought” (Nos. XXV., XXVI.) incorporated in the present volume, has had as his object “to exhibit the principal ideas of Greek philosophy in the closest possible connexion with the characters of their authors, with each other, with their development in modern speculation, with the parallel tendencies of literature and art, with the history of religion, of physical science, and of civilisation as a whole”. The chapters as far as “Epicurus and Lucretius” have already appeared in the *Westminster Review*. Not before published are three chapters on “The Sceptics and Eclectics,” “The Religious Revival,” “The Spiritualism of Plotinus” (ii., pp. 120-362). Critical Notice will follow.

The Origin of Ideas. By ANTONIO ROSMINI SERBATI. Translated from the Fifth Italian Edition of the *Nuovo Saggio sull' Origine delle Idee*. Vol. I. London: Kegan Paul & Trench, 1883. Pp. lii., 382.

Rosmini, first introduced in writing of his own to English readers by Mr. Davidson (See MIND XXVI., 317 and XXVII., 398), is now to be made farther known in a translation of the earliest of his more important works. The present volume (to be followed by two others) contains the whole of the examination of previous theories of the Origin of Ideas which Rosmini's method required him to make before producing his own theory. He divides them into two classes: (1) Theories which err by Defect, *i.e.*, by not assigning to Ideas an adequate cause (Locke's, Condillac's, Reid's, Stewart's—the last, especially, very exhaustively discussed); (2) Theories which err by Excess, *i.e.*, by assigning to Ideas a greater cause than is necessary (Plato's and Aristotle's, Leibniz', Kant's—the last, again, at greatest length). The unnamed Translators have substituted an expository preface of their own (pp. vii.-xli) for Rosmini's, written as that was "with special reference to the Catholic public in Italy and to the condition of philosophical controversies at the time the *Nuovo Saggio* was first published" (1830).

Hegel. By EDWARD CAIRD, LL.D., Professor of Moral Philosophy, University of Glasgow. Edinburgh and London: Blackwood, 1882. Pp. 224.

None of the contributors to the series of "Philosophical Classics for English Readers" had a more difficult task set him than Prof. Caird, and no one has produced a work that, upon a first inspection, more judiciously and successfully blends philosophical exposition with biographical narration. The attempt to set forth, in so short compass, the main ideas and inner meaning of Hegel's thought deserves special examination, which will follow later on.

The Causation of Sleep. By JAMES CAPPIE, M.D. Second Edition, Re-written. Edinburgh: Thin, 1882. Pp. 207.

This work re-enforces a thesis which the author originally maintained as far back as 1854. The argument is mainly physiological, but is also intelligently supported from the psychological side. It is thus summarised at p. 111:—

"In the causation of sleep we have not one or two but a combination and succession of conditions inseparably linked together. The first change is a modified movement in the molecules of the brain tissue; the last is compression of the whole organ. From lessened activity of the molecules spring a less active state of the capillary circulation and diminished stress through the cranial cavity. Next, we have a change in the balance of the circulation, in producing which the weight of the atmosphere, causing backward pressure in the cerebral veins, is an essential agent. With the altered balance of the circulation there is a change in the balance of active pressure; it is less from within and more on the surface—it is less expansive and more compressing. With a certain amount of compression consciousness is suspended."

First Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, 1879-80. By J. W. POWELL, Director. Washington: Government Printing Office, 1881. Pp. xxxiii. 603.

In this magnificent and lavishly (for the most part finely) illustrated volume, the Report proper is followed by a variety of Memoirs, from different hands, on the anthropology of North American Indians. Especially notable here is the longest memoir of all (pp. 269-552) by Col. Garrick Mallery, on "Sign Language," which enters at some length into the general theory of the subject and brings together from other sources a quantity of matter for the comparative study of the very elaborately recorded and figured gestures of the Indian tribes. The Director also, in several shorter memoirs, "On the Evolution of Language," "Sketch of the Mythology of the N. A. Indians," and "On Limitations to the Use of some Anthropologic Data," is seriously concerned to bring the objective work of the Bureau into relation with the results of psychological inquiry and philosophical thought. Future Reports will be looked forward to with interest by all who see the present one.

La Psychologie de l' Association depuis Hobbes jusqu' à nos Jours. (Histoire et Critique.) Par LOUIS FERRI, Professeur à l' Université de Rome. Ouvrage couronné par l' Académie des Sciences morales et politiques. Paris: Germer Baillière, 1883. Pp. 378.

For the present, we note only that this prize-essay by the distinguished Roman professor is divided into three parts. The first two are historical, in accordance with a division he makes of two periods—the earlier extending from Hobbes, Locke, and Berkeley, through Hume and Hartley, to Priestley and E. Darwin (pp. 1-77); the later from Brown, through the Mills and Prof. Bain, to Mr. Spencer (pp. 79-225). In the remaining critical part (pp. 228-336), Association is considered as involved in the production and the reproduction of knowledge, as accounting for mental faculties, the notion of personality, &c., and in its other psychological and metaphysical applications. An Appendix gives some special citations bearing on the history of the doctrine, with M. F. Bouillier's Report to the Academy on the merits of the Essay.

Hume-Studien. II. Zur Relationstheorie. Von Dr. ALEXIUS MEINONG, a. ö. Professor der Philosophie an der Universität in Graz. Wien: Gerold's Sohn, 1882. Pp. 182.

Dr. Meinong, the first part of whose *Hume-Studien* was reviewed in MIND XI., 386, takes as the subject of his second part the general theory of Relation. His method is the same as when he treated the doctrine of Modern Nominalism. He goes forward

from Hume to the later English thinkers, also backward to Hume's predecessors; and in the present case has so much to say, before Hume, on Locke's theory of Relation that the 'Study' might be named as much after the one as the other. It is, in fact, part of the author's object, in these careful studies of English philosophical thought, to bring Locke again into due credit in Germany. The present essay is intended as only a first handling of the fundamentally important subject with which it deals, to be followed up by a more exhaustive treatment. Such as it is, we hope to examine it more closely on another occasion.

Grundzüge der Naturphilosophie. Dictate aus den Vorlesungen von HERMANN LOTZE. Leipzig: Hirzel, 1882. Pp. 112.

The fifth of the series of Lotze's paragraphs for dictation in lecture, prepared for the press by Prof. E. Rehnisch. They are presented by the editor under the following heads: Introduction; Motion; Moving Forces; Mass, Matter and Space; Nexus of Natural Processes; Physical Hypotheses; Organic Life. At the end is given Lotze's leaving-certificate from the University of Leipsic, as a student of philosophy and medicine.

Die Grundprobleme der Logik. Von Dr. JUL. BERGMANN, ord. Prof. der Philosophie an der Universität zu Marburg. Berlin: Mittler, 1882. Pp. 196.

In the author's *Pure Logic* published in 1876 and noticed in MIND XVII., the intention was stated of preparing a second volume on *Applied Logic*. Instead of completing this, however, he has now felt compelled to publish, in a new shape, a general review of his position; chiefly owing to the difficulties felt by some of his former readers. At a first glance, the new volume appears to consist mainly of a re-statement and re-arrangement, in a more condensed fashion, of some of the leading views expressed in the former one. [A. S.]

Die Schriften Notkers u. seiner Schule. Herausgegeben von PAUL PIPER. Erster Band, erste Liefg. Freib. i. B., u. Tübingen: Mohr, 1882. Pp. clxxxiii., 368.

Reprint of the works of Notker (d. 1022) and his school at the monastery of St. Gallen. Of the first volume, which is to include the philosophical works, the present first part (after an elaborate introduction) gives the translation of Boethius's *De Consolatione Philosophiae*, with commentary, in early German.

Il nuovo Realismo contemporaneo della Teorica della Conoscenza in Germania ed Inghilterra. Studio critico di GIOVANNI CESCA,¹ Dottore in filosofia e lettere. Verona e Padova: Drucker e Tedeschi, 1883. Pp. 193.

¹ Printed, by mistake, Cerca in the notice of a previous book, MIND XXIX., 143.

"The new Realism" is the doctrine that is to reconcile the admission "that something exists independently of consciousness" with the principle of the relativity of knowledge. The first part of the present volume is an exposition of the theories of the external world that were formulated by Descartes, Locke, Berkeley, Hume, Reid, and Kant. This serves as a historical introduction to the next two parts, in which "contemporary German realism" and "the new English realism" are critically studied. In the fourth part, the results of the preceding investigation are summed up and the doctrine of the author himself is explained. He regards Mr. Spencer's "transfigured realism" as nearest the true doctrine; but the thing-in-itself must be thought of merely as "the objective factor in experience," not as identical with the absolute. The theory of knowledge does not make the attempt to get rid of dualism; it leaves this for metaphysic. By studying the conditions of the evolution of consciousness, we find ourselves compelled to admit something beyond consciousness. This result cannot be obtained unless we admit the objective validity of the law of causation. Kant could not admit this consistently with his principles, and the law of causation was with him purely *a priori*; but for evolutionists this difficulty does not exist.

[T. W.]

Emanuele Kant. Per CARLO CANTONI, Professore di Filosofia all' Università di Pavia. Vol. secondo. "La Filosofia Pratica (Morale, Diritto, Politica)." Milano: Brigola, 1883. Pp. xv., 430.

This volume continues Professor Cantoni's exposition of the Critical Philosophy, but does not complete it. The account of the æsthetical, teleological and theological views of Kant is held over for a third volume. It is now three or four years since the appearance of the first volume (see MIND XVI., 601) which was devoted mainly to the *Critique of Pure Reason* and the *Metaphysic of Natural Science*. The qualities there noticeable distinguish the present exposition of Kant's ethical and political doctrine. A clear style, very complete knowledge, and an eminently judicial faculty enable Professor Cantoni to give what may fairly be called an *objective* representation of the Kantian theory. A good study of the predecessors of the Kantian ethical doctrine (pp. 1-50) and a critical examination of the doctrine itself (pp. 207-272) add to the interest of the work. We hope soon to recur to Professor Cantoni's work and to give a more complete account of its merits. As it stands at present, wanting the third volume, many threads are left loose which the author will have to gather together, and on his success in this task the value of the whole must depend for the greater part.

[R. A.]

IX.—MISCELLANEOUS.

Under the new Statutes of the University of Cambridge, Electoral Boards have been constituted both for the existing Chair of Moral Philosophy (in which Mr. H. Sidgwick is at present acting as deputy for Prof. Birks, who is disabled) and for a Chair of Logic and Mental Philosophy which it is decided to create within a short time, as soon as funds are available for its endowment. The Boards are largely composed of experts in the different subjects, including some who have no connexion with Cambridge.

A portrait of Professor Bain, subscribed for by "Old Students and Friends" and painted by Mr. George Reid, R.S.A., has been presented to the University of Aberdeen. The remainder of the fund raised in recognition of Prof. Bain's services, on his retiring from the Chair of Logic at Aberdeen in 1880, has been devoted to the founding of a gold "Bain Medal," to be awarded yearly for philosophical study in the University.

Messrs. Appleton & Co. of New York have published, under the title *Herbert Spencer on the Americans and the Americans on Herbert Spencer* (pp. 96), "a full Report of his Interview and of the Proceedings at the Farewell Banquet of Nov. 9, 1882," with a short preface by Dr. E. L. Youmans. The report of the "Proceedings" at the Banquet not only includes the speeches delivered, with the letters of apology sent by eminent men who were unable to be present, but also three "unspoken speeches" (suppressed at midnight) which are thus described: "What Mr. Youmans did not say"; "What Mr. Ward was ready to say"; "What Mr. Leland got no chance to say". What Dr. Youmans "did not say"—to the toast of "Spencer's Philosophy of Evolution: the most original achievement in the history of thought"—is worth reading for the sketch it gives of the evolution of Mr. Spencer's own thought.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. XVI. No. 3. S. H. Hodgson—Philosophy in relation to its History. E. Trentowski—The Sources and Faculties of Cognition (trans.). J. Dewey—The Pantheism of Spinoza. Hegel—On the Absolute Religion (trans.). M. W. Sewall—The Idea of the Home. A. Wilder—The Chaldaean Oracles (reprint of Thomas Stanley's translation, with notes). M. Tuthill—Use, Beauty, Reason. C. E. Lackland—Mephistopheles. Notes and Discussions.

REVUE PHILOSOPHIQUE.—VIII^{me} Année, No. 1. C. Levêque—L'esthétique musicale en France: iii. Psychologie de l'orchestre et de la symphonie. G. Séailles—Philosophes contemporains: M. J. Lachelier (i.). G. Tarde—La statistique criminelle du dernier demi-siècle. Notes et Discussions (P. Tan-nery et A. Fouillée—La liberté et le temps). Analyses et comptes-rendus (J. Watson, *Kant and his English Critics*; G. J. Romanes, *Animal Intelligence*). Rev. des Périod. Correspondance (L. Dauriac—Sur la mémoire de l'intonation). No. 2. F. Bouillier—De la responsabilité morale dans la rêve. Th. Ribot—L'anéantissement de la volonté. J. Joly—Les origines du droit dans leur intégralité. Analyses, &c. Notices bibliog. Rev. des Périod. Correspondance (A propos de la réforme du baccalauréat). No. 3. C. Richet—La personnalité et la mémoire dans le somnambulisme. M. Guyau—De l'idée de sanction. G. Séailles—Philosophes contemporains: M. Lachelier (fin). Analyses, &c. (M. Müller, *Kant's Critique of Pure Reason*, &c.). Rev. des Périod. Correspondance (M. Poletti—A propos de la statistique criminelle).

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